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SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Lawrence Examiner #: 71724 Date: 9-3-03
 Art Unit: 111 Phone Number 301-4576 Serial Number: 71724
 Mail Box and Bldg/Room Location: 766 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): Dr. Tom Shue

Earliest Priority Filing Date: _____

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

These search for an electrolyte composition
 of a Li-ion compound. There is an ionic metal complex/formula
 at least one compound selected from formulas (2), (3), (4),
 (5), (9) &
 11-72
 (Formula 5-7)
 in claim 1

Thanks,
 Lawrence

Please send back copy of claims.

STAFF USE ONLY

Searcher: <u>A. Fuller</u>	Type of Search	Vendors and cost where applicable
Searcher Phone #: _____	NA Sequence (#) _____	STN <u>✓</u>
Searcher Location: _____	AA Sequence (#) _____	Dialog _____
Date Searcher Picked Up: _____	Structure (#) <u>10</u>	Questel/Orbit _____
Date Completed: <u>9/05/03</u>	Bibliographic _____	Dr. Link _____
Searcher Prep & Review Time: <u>30</u>	Litigation _____	Lexis/Nexis _____
Clerical Prep Time: _____	Fulltext _____	Sequence Systems _____
Online Time: <u>50</u>	Patent Family _____	WWW/Internet _____
	Other _____	Other (specify) _____



STIC Search Report

EIC 1700

STIC Database Tracking Number: 102971

TO: Laura Weiner
Location: CP3 8E10
Art Unit : 1745
September 5, 2003

Case Serial Number: 09/994670

From: Kathleen Fuller
Location: EIC 1700
CP3/4 3D62
Phone: 308-4290

Kathleen.Fuller@uspto.gov

Search Notes



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher or contact:*

Kathleen Fuller, EIC 1700 Team Leader
308-4290, CP3/4-3D62

Voluntary Results Feedback Form

➤ I am an examiner in Workgroup: Example: 1713

➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC/EIC1700 CP3/4 3D62



=> FILE REG

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STRUCTURE FILE UPDATES: 3 SEP 2003 HIGHEST RN 578696-90-9
DICTIONARY FILE UPDATES: 3 SEP 2003 HIGHEST RN 578696-90-9

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STN Note 27, Searching Properties
in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> FILE HCAPLUS

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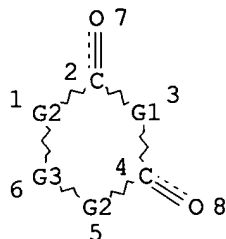
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FILE COVERS 1907 - 5 Sep 2003 VOL 139 ISS 11
FILE LAST UPDATED: 4 Sep 2003 (20030904/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> D QUE L69

L40	SCR 1838
L42	SCR 2040
L47	STR



19,605 structures from the query (formula)

REP G1=(0-20) C
 VAR G2=O/S/N
 VAR G3=M/B/SI/P/AS
 NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE

L51	19605	SEA	FILE=REGISTRY	SSS FUL	L47 AND L40 AND L42
L52	98777	SEA	FILE=REGISTRY	ABB=ON	CLO4
L53	50792	SEA	FILE=REGISTRY	ABB=ON	F6P/BI
L54	54591	SEA	FILE=REGISTRY	ABB=ON	BF4
L55	2364	SEA	FILE=REGISTRY	ABB=ON	ASF6
L56	5619	SEA	FILE=REGISTRY	ABB=ON	F6SB
L59	549755	SEA	FILE=REGISTRY	ABB=ON	(S(L)F(L)C(L)H(L)O)/ELS
L60	22354	SEA	FILE=REGISTRY	ABB=ON	L59 NOT 1-300/NR
L61	19488	SEA	FILE=REGISTRY	ABB=ON	L60 NOT PMS/CI
L63	13844	SEA	FILE=HCAPLUS	ABB=ON	L51
L64	881	SEA	FILE=HCAPLUS	ABB=ON	L63 AND (L52 OR L53 OR L54 OR L55 OR L56 OR L61)
L65	51	SEA	FILE=HCAPLUS	ABB=ON	L63(L)ELECTROLYTE?
L66	7	SEA	FILE=HCAPLUS	ABB=ON	L64 AND L65
L67	1344	SEA	FILE=HCAPLUS	ABB=ON	L63 AND (?CARBONATE? OR ?SULFATE? OR ?SULFONATE?)
L68	27	SEA	FILE=HCAPLUS	ABB=ON	L65 AND L67
L69	27	SEA	FILE=HCAPLUS	ABB=ON	L66 OR L68

5-9 formulas

2-4 formulas

test for 5-7

electrolytes with formula 1 and one of 2-9

=> D L69 ALL 1-27 HITSTR

L69 ANSWER 1 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2003:434238 HCAPLUS
 DN 138:404391
 TI Process for fabrication of batteries with liquid organic electrolytes
 IN Birke-Salam, Fatima; Birke, Peter; Holl, Konrad; Stelzig, Heinrich; Illic, Dejan
 PA Varta Microbattery GmbH, Germany
 SO Eur. Pat. Appl., 4 pp.
 CODEN: EPXXDW
 DT Patent
 LA German
 IC ICM H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1317012	A2	20030604	EP 2002-26639	20021129
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	DE 10159230	A1	20030618	DE 2001-10159230	20011203
	CN 1424784	A	20030618	CN 2002-151588	20021203
	US 2003113637	A1	20030619	US 2002-308319	20021203
	JP 2003197207	A2	20030711	JP 2002-351411	20021203
PRAI	DE 2001-10159230	A	20011203		

AB The title batteries comprise a separator/electrode composite, which contains .gtoreq.1 Li intercalating electrode, in whose polymer matrix polymer-insol. electrochem. active materials are finely dispersed. The electrolyte contains 2-15% C-H-O compd. (**carbonate**), which has a central C atom, on which an O atom is bonded by a double bond and 2 O atoms are bonded by single bonds. The O atoms bonded by single bonds are not satd. with further atoms or groups, the O atoms enclose hydrocarbon chain, whose length amts. to .ltoreq.4 C chains. The two chains differ by .gtoreq.1 or .gtoreq.3 CH2 groups. With this electrolyte mixt. an electrode/separator composite is satd., cut to pieces, and introduced into a housing. The separator/electrode composite is laminated with a current collector (or a counterelectrode) before satg. with the liq. org. electrolyte, and also satd. in the form of a roll.

ST battery liq org electrolyte fabrication

IT Fluoro rubber

RL: MOA (Modifier or additive use); USES (Uses)

(hexafluoropropene-vinylidene fluoride; process for fabrication of batteries with liq. org. electrolytes)

IT Primary batteries

(process for fabrication of batteries with liq. org. electrolytes)

IT 623-53-0, Ethyl methyl **carbonate** 1313-13-9, Manganese dioxide, uses 7439-93-2, Lithium, uses 7440-50-8, Copper, uses 7791-03-9, Lithium perchlorate 25085-53-4, Celgard 2500 56525-42-9, Methylpropyl **carbonate** 244761-29-3, Lithium bis(oxalato)borate 403699-22-9, Phosphate(1-), trifluorotris(pentafluoroethyl), lithium
RL: DEV (Device component use); USES (Uses)

(process for fabrication of batteries with liq. org. electrolytes)

IT 96-49-1, Ethylene **carbonate** 108-32-7, Propylene **carbonate** 7782-42-5, Graphite, uses

RL: MOA (Modifier or additive use); USES (Uses)

(process for fabrication of batteries with liq. org. electrolytes)

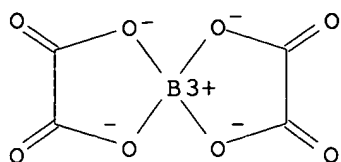
IT 244761-29-3, Lithium bis(oxalato)borate

RL: DEV (Device component use); USES (Uses)

(process for fabrication of batteries with liq. org. electrolytes)

RN 244761-29-3 HCAPLUS

CN Borate(1-), bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, lithium, (T-4)-(9CI) (CA INDEX NAME)



● Li⁺

L69 ANSWER 2 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2003:308007 HCAPLUS
 DN 139:91857
 TI Formation of the Graphite/Electrolyte Interface by Lithium
 Bis(oxalato)borate
 AU Xu, Kang; Zhang, Shengshui; Jow, T. Richard
 CS U. S. Army Research Laboratory, Sensor and Electronics Directorate,
 Adelphi, MD, 20783-1197, USA
 SO Electrochemical and Solid-State Letters (2003), 6(6), A117-A120
 CODEN: ESLEF6; ISSN: 1099-0062
 PB Electrochemical Society
 DT Journal
 LA English
 CC 72-2 (Electrochemistry)
 Section cross-reference(s): 52
 AB Solid electrolyte interface (SEI) formed on graphitic anode in electrolyte
 contg. a salt, lithium bis(oxalato)borate (LiBOB), was investigated using
 electrochem. means, and an irreversible redn. process was found for LiBOB
 on graphitic anode at ca. 1.6 V vs. Li. To ascertain whether this process
 is responsible for the unique LiBOB property in stabilizing graphene
 structure against propylene **carbonate** (PC), we systematically
 interrupted the lithiation of graphitic anodes in LiBOB-electrolytes at a
 series of potentials and then tested the survivability of these preformed
 anodes in PC soln. of LiPF₆, an electrolyte compn. known to exfoliate
 graphite materials readily. The results demonstrate that the formation of
 a functioning SEI is completed at potentials around 0.50 V vs. Li, and
 confirmed that BOB-anion plays a crit. role in the effectiveness of the
 formed SEI to protect the graphene structure from exfoliation even in PC.
 ST graphite lithium bisoxalatoborate electrolyte interface
 IT Intercalation
 (electrochem.; of lithium into graphite in propylene **carbonate**
 contg. LiPF₆)
 IT Electrode-electrolyte interface
 Solid electrolytes
 (formation of graphite/electrolyte interface by lithium
 bis(oxalato)borate)
 IT Electric capacitance-potential relationship
 (of graphite/lithium bis(oxalato)borate electrolyte interface in PC
 contg. LiPF₆)
 IT Electric capacitance
 Stability
 (of graphite/lithium bis(oxalato)borate electrolyte interface in pc
 contg. LiPF₆)
 IT 108-32-7, Propylene **carbonate**

RL: NUU (Other use, unclassified); USES (Uses)
 (elec. capacitance of graphite/lithium bis(oxalato)borate electrolyte interface in PC contg. LiPF6)

IT 7439-93-2, Lithium, uses

RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent); USES (Uses)
 (electrochem. intercalation into graphite in propylene **carbonate** contg. LiPF6)

IT 21324-40-3, Lithium hexafluorophosphate

RL: NUU (Other use, unclassified); USES (Uses)
 (electrochem. intercalation of lithium into graphite in propylene **carbonate** contg.)

IT 244761-29-3, Lithium bis(oxalato)borate

RL: NUU (Other use, unclassified); USES (Uses)
 (formation of graphite/**electrolyte** interface by)

IT 7782-42-5, Graphite, uses

RL: DEV (Device component use); USES (Uses)
 (formation of graphite/electrolyte interface by lithium bis(oxalato)borate)

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

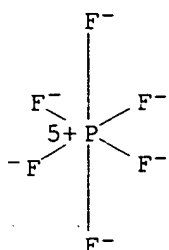
- (1) Andersson, A; J Electrochem Soc 2001, V148, PA1100 HCAPLUS
- (2) Chung, G; J Electrochem Soc 2000, V147, P4391 HCAPLUS
- (3) Chusid, O; J Power Sources 1993, V43-44, P47
- (4) Dahn, J; Electrochim Acta 1993, V38, P1179 HCAPLUS
- (5) Dahn, J; J Electrochem Soc 1991, V138, P2207 HCAPLUS
- (6) Du Pasquier, A; J Electrochem Soc 1999, V145, P472
- (7) Ein-Eli, Y; Electrochim Acta 1994, V39, P2559 HCAPLUS
- (8) Fong, R; J Electrochem Soc 1990, V137, P2009 HCAPLUS
- (9) Gnanaraj, J; J Electrochem Soc 2001, V148, PA525 HCAPLUS
- (10) Imhof, R; J Electrochem Soc 1998, V145, P1081 HCAPLUS
- (11) Lanz, M; J Power Sources 2001, V102, P277 HCAPLUS
- (12) Lischka, U; DE 19829030 C1 1999 HCAPLUS
- (13) Peled, E; Lithium Batteries 1983
- (14) Xu, K; Electrochem Solid-State Lett 2002, V5, PA259 HCAPLUS
- (15) Xu, K; Electrochem Solid-State Lett 2002, V5, PA26 HCAPLUS
- (16) Xu, K; Unpublished results
- (17) Xu, W; Electrochem Solid-State Lett 2001, V4, PE1 HCAPLUS

IT 21324-40-3, Lithium hexafluorophosphate

RL: NUU (Other use, unclassified); USES (Uses)
 (electrochem. intercalation of lithium into graphite in propylene **carbonate** contg.)

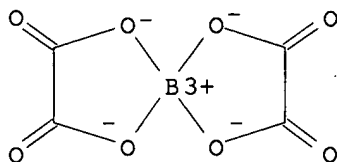
RN 21324-40-3 HCAPLUS

CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

IT 244761-29-3, Lithium bis(oxalato)borate
 RL: NUU (Other use, unclassified); USES (Uses)
 (formation of graphite/**electrolyte** interface by)
 RN 244761-29-3 HCAPLUS
 CN Borate(1-), bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, lithium, (T-4)-
 (9CI) (CA INDEX NAME)



● Li⁺

L69 ANSWER 3 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2003:172103 HCAPLUS
 DN 138:224127
 TI Electrolyte solution or gel electrolyte for electrochemical device
 IN Tsujioka, Shoichi; Takase, Hiroshige; Takahashi, Mikihiro; Sugimoto,
 Hiromi; Isono, Yoshimi
 PA Central Glass Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM H01M010-40
 ICS H01M010-40; H01M006-16
 CC 52-1 (Electrochemical, Radiational, and Thermal Energy Technology)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003068358	A2	20030807	JP 2001-255850	20010827
PRAI	JP 2001-255850		20010827		
AB	The invention relates to an electrolyte soln. or gel used in an electrochem. device, such as a Li battery, comprising lithium				

bis(oxalato)borate as an electrolyte component and .gamma.-butyrolactone as a solvent component.

ST electrochem device lithium bisoxalatoborate butyrolactone battery

IT Battery electrolytes
Secondary batteries
(electrolyte soln. or gel electrolyte for electrochem. device)

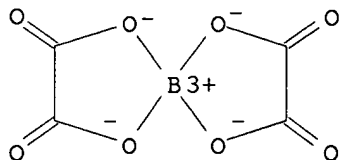
IT Gels
(electrolyte; electrolyte soln. or gel electrolyte for electrochem. device)

IT 96-48-0, .gamma.-Butyrolactone 96-49-1, Ethylene **carbonate**
244761-29-3, Lithium bis(oxalato)borate
RL: DEV (Device component use); USES (Uses)
(**electrolyte** soln. or gel **electrolyte** for electrochem. device)

IT **244761-29-3**, Lithium bis(oxalato)borate
RL: DEV (Device component use); USES (Uses)
(**electrolyte** soln. or gel **electrolyte** for electrochem. device)

RN 244761-29-3 HCAPLUS

CN Borate(1-), bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, lithium, (T-4)-
(9CI) (CA INDEX NAME)



● Li⁺

L69 ANSWER 4 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2003:153395 HCAPLUS

DN 138:194942

TI Polymer electrolytes and their use in galvanic cells

IN Schmidt, Michael; Ott, Frank; Geissler, Wilfried

PA Merck Patent GmbH, Germany

SO Ger. Offen., 14 pp.
CODEN: GWXXBX

DT Patent

LA German

IC ICM C07F005-04
ICS C07F009-6574; H01M006-16; H01M010-40; H01G009-022; H01B001-12;
C08K005-35; C08K005-32

CC 72-2 (Electrochemistry)
Section cross-reference(s): 52

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10139409	A1	20030227	DE 2001-10139409	20010817
	WO 2003017409	A2	20030227	WO 2002-EP8287	20020725

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
 UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,
 TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
 CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
 PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
 NE, SN, TD, TG

PRAI DE 2001-10139409 A 20010817

AB The invention concerns the prepn. and applications of mixts. from borate or phosphate salts, in particular spiroborate or spiroposphate salts, and polymers and their use in electrolytes, batteries, capacitors, supercapacitors and galvanic cells. The several groups of compds. which could be synthesized are described. An effect of the substituent and solvent on the polymer electrolyte mixts. is pointed out.

ST polymer electrolyte galvanic cell battery

IT Capacitors

Electrolytic cells

Fuel cells

Polymer electrolytes

Primary batteries

Secondary batteries

(polymer electrolytes and their use in galvanic cells)

IT Aromatic compounds

Fluoropolymers, uses

Heterocyclic compounds

RL: NUU (Other use, unclassified); USES (Uses)

(polymer electrolytes and their use in galvanic cells)

IT Borates

Phosphates, uses

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polymer electrolytes and their use in galvanic cells)

IT Polysiloxanes, uses

RL: NUU (Other use, unclassified); USES (Uses)

(polymers and copolymers; polymer electrolytes and their use in galvanic cells)

IT 75-38-7D, copolymer

RL: NUU (Other use, unclassified); USES (Uses)

(Kynar Flex; polymer electrolytes and their use in galvanic cells)

IT 60-29-7, Diethylether, uses 67-64-1, Acetone, uses 67-68-5, DMSO, uses

75-05-8, Acetonitrile, uses 75-21-8D, Ethylene oxide, polymers and

copolymers 75-38-7D, Vinylidene difluoride, polymers and copolymers

79-20-9, Methyl acetate 80-62-6D, Methylmethacrylate, polymers and

copolymers 96-33-3D, Methylacrylate, polymers and copolymers 96-48-0,

.gamma.-Butyrolactone 105-37-3, Ethyl propionate 105-54-4, Ethyl

butyrate 107-13-1, Acrylonitrile, uses 107-13-1D, Acrylonitrile,

polymers and copolymers 107-31-3, Methylformate 108-32-7, Propylene

carbonate 109-94-4, Ethyl formate 109-99-9D, THF, polymers and

copolymers 110-71-4 141-78-6, Ethyl acetate, uses 554-12-1, Methyl

propionate 598-03-8 616-38-6, Dimethyl **carbonate** 616-42-2,

Dimethylsulfite 623-42-7, Methyl butyrate 623-53-0, Ethylmethyl

carbonate 623-81-4, Diethylsulfite 872-36-6, Vinylene

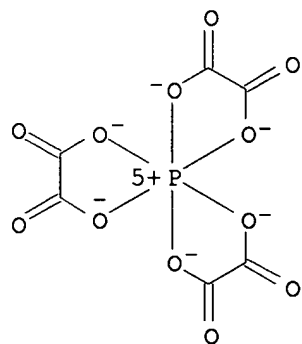
carbonate 882-58-6D, Phosphazene, polymers and copolymers

24937-79-9, Polyvinylidene fluoride 56525-42-9, Methylpropyl

carbonate 73506-93-1, Diethoxyethane

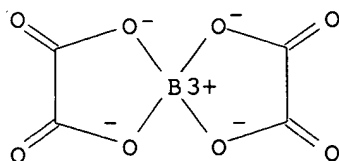
RL: NUU (Other use, unclassified); USES (Uses)

- (polymer electrolytes and their use in galvanic cells)
- IT 96-49-1, Ethylene **carbonate** 105-58-8, Diethyl
carbonate
 RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
- (polymer electrolytes and their use in galvanic cells)
- IT 321201-33-6P, Lithium tris(oxalato)phosphate(1-)
 RL: PNU (Preparation, unclassified); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
- (polymer **electrolytes** and their use in galvanic cells)
- IT 244761-29-3P, Lithium bis(oxalato)borate 321936-21-4P
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
- (polymer **electrolytes** and their use in galvanic cells)
- IT 144-62-7, Oxalic acid, reactions 662-22-6 1310-65-2, Lithium hydroxide 10043-35-3, Boric acid, reactions 499782-42-2
 RL: RCT (Reactant); RACT (Reactant or reagent)
- (polymer electrolytes and their use in galvanic cells)
- IT 321201-33-6P, Lithium tris(oxalato)phosphate(1-)
 RL: PNU (Preparation, unclassified); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
- (polymer **electrolytes** and their use in galvanic cells)
- RN 321201-33-6 HCAPLUS
 CN Phosphate(1-), tris[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, lithium, (OC-6-11)- (9CI) (CA INDEX NAME)



● Li⁺

- IT 244761-29-3P, Lithium bis(oxalato)borate
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
- (polymer **electrolytes** and their use in galvanic cells)
- RN 244761-29-3 HCAPLUS
 CN Borate(1-), bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, lithium, (T-4)- (9CI) (CA INDEX NAME)



● Li⁺

L69 ANSWER 5 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2003:132812 HCAPLUS
 DN 138:190698
 TI Liquid electrolyte for lithium secondary battery from non-halogen-type boron-containing lithium salt and lithium secondary battery using the same
 IN Aoki, Yoshifumi; Ukyo, Yoshio
 PA Toyota Central Research and Development Laboratories, Inc., Japan
 SO Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM H01M010-40
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003051336	A2	20030221	JP 2001-240639	20010808
PRAI	JP 2001-240639		20010808		

AB The title liq. electrolyte contains a solute capable of forming Li⁺ upon dissolving in an org. solvent, wherein the solute contains a non-halogen-type B-contg. Li salt such as Li dioxalate boroxide. The org. solvent may include ethylene **carbonate** and di-Et **carbonate**. The liq. electrolyte does not produce dioxin during an incineration process.

ST liq electrolyte lithium secondary battery boron salt; boroxide lithium salt secondary battery

IT Electrolytes
 (liq.; liq. electrolyte for lithium secondary battery from non-halogen-type boron-contg. lithium salt)

IT Secondary batteries
 (lithium; liq. electrolyte for lithium secondary battery from non-halogen-type boron-contg. lithium salt)

IT 69-72-7, reactions 144-62-7, Oxalic acid, reactions 6867-35-2, Lithium tetramethoxy borate
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (liq. electrolyte for lithium secondary battery from)

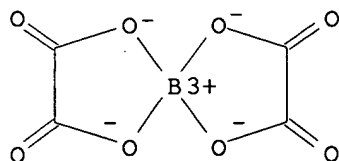
IT 161589-07-7P **244761-29-3P**
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (liq. **electrolyte** for lithium secondary battery from non-halogen-type boron-contg. lithium salt)

IT **244761-29-3P**
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(liq. **electrolyte** for lithium secondary battery from
non-halogen-type boron-contg. lithium salt)

RN 244761-29-3 HCAPLUS

CN Borate(1-), bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, lithium, (T-4)-
(9CI) (CA INDEX NAME)



● Li⁺

L69 ANSWER 6 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:750513 HCAPLUS

DN 137:265681

TI Polymer electrolytes for lithium-polymer-batteries

IN Naarmann, Herbert; Kruger, Franz Josef

PA Dilo Trading A.-G., Switz.

SO Ger. Offen., 4 pp.

CODEN: GWXXBX

DT Patent

LA German

IC ICM H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10112613	A1	20021002	DE 2001-10112613	20010314
PRAI	DE 2001-10112613		20010314		

AB Such polymer systems are usually referred to as polymer gels and they consist of polymers and conducting salts, appropriate aprotic solvents, and optionally also additives which serve as structure-improvers or as effect materials. Homo and/or copolymers which have no p-active groups, but which may be cross-linked, can serve in polymer electrolytes. Also suitable are polymers with a mol. wt. from 10 000 to 3 000 000 and polymer types, polyolefins, polystyrene, polydiene, polyethers and/or polyheterocycles, homo and/or copolymers and mixts. of these. Conducting salts include Li salts such as LiBF₄, LiPF₆, LiClO₄, Li-oxalato borate, Li- trifluoromethanesulfones. The solvents are aprotic systems, preferably liqs. with high b.ps. like Et **carbonate**, Pr **carbonate** and others. Additives are org. or inorg. structure improvers, cross-linked polymers or SiO₂, zeolites or titanates, ferrites and others.

ST polymer electrolyte lithium battery aprotic solvent conducting salt additive

IT Fluoro rubber

RL: TEM (Technical or engineered material use); USES (Uses)

(PVDF-HFP-II 012; polymer electrolytes for lithium-polymer-batteries)

IT Ferrites

Molybdates
 Silicates, uses
 Titanates
 Zeolites (synthetic), uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (additive for polymer electrolytes)

IT **Carbonates**, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (alkyl; solvent in polymer electrolytes)

IT Solvents
 (aprotic; solvents for polymer electrolytes)

IT Styrene-butadiene rubber, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (block polymers, dioxolanone deriv.; polymer electrolytes for
 lithium-polymer-batteries)

IT Electric conductivity
 (characteristic of polymer electrolyte for lithium-polymer-batteries)

IT Sensors
 (electrochem.; polymer electrolytes as sensor and indicators)

IT Ethers, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (fluoroalkyl; solvent in polymer electrolytes)

IT Primary batteries
 (lithium; polymer electrolytes for lithium-polymer-batteries)

IT Polymer electrolytes
 (polymer electrolytes for lithium-polymer-batteries)

IT Electric switches
 (polymer electrolytes for switches)

IT Information systems
 (storage; polymer electrolytes used in information storage)

IT 117197-37-2
 RL: TEM (Technical or engineered material use); USES (Uses)
 (Luvicross; polymer electrolytes for lithium-polymer-batteries)

IT 1332-37-2, Iron oxide, uses 7631-86-9, Silica, uses 12018-01-8,
 Chromium dioxide
 RL: MOA (Modifier or additive use); USES (Uses)
 (additive for polymer electrolytes)

IT 7791-03-9, Lithium perchlorate (LiClO₄) **14283-07-9**
21324-40-3, Lithium hexafluorophosphate (LiPF₆) **90076-65-6**
244761-29-3
 RL: TEM (Technical or engineered material use); USES (Uses)
 (conducting salt in polymer **electrolytes**)

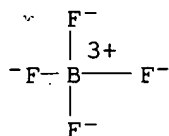
IT 79-10-7D, Acrylic acid, Me deriv., esters with C4 to C12 alc. 88-12-0,
 uses 98-83-9, .alpha.-Methylstyrene, uses 100-42-5, Styrene, uses
 2235-00-9, Vinylcaprolactam 29383-23-1, Vinylimidazole
 RL: TEM (Technical or engineered material use); USES (Uses)
 (polymer electrolytes for lithium-polymer-batteries)

IT 96-49-1, Ethylene **carbonate** 108-32-7, Propylene
carbonate
 RL: TEM (Technical or engineered material use); USES (Uses)
 (solvent in polymer electrolytes)

IT 106107-54-4
 RL: TEM (Technical or engineered material use); USES (Uses)
 (styrene-butadiene rubber, block polymers, dioxolanone deriv.; polymer
 electrolytes for lithium-polymer-batteries)

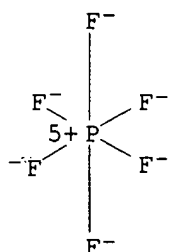
RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE
 (1) Anon; WO 0013249 A1 HCAPLUS

IT 14283-07-9 21324-40-3, Lithium hexafluorophosphate
 (LiPF₆) 90076-65-6 244761-29-3
 RL: TEM (Technical or engineered material use); USES (Uses)
 (conducting salt in polymer **electrolytes**)
 RN 14283-07-9 HCAPLUS
 CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



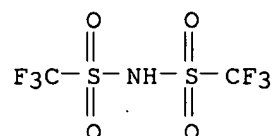
● Li⁺

RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



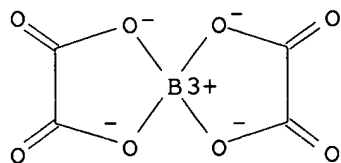
● Li⁺

RN 90076-65-6 HCAPLUS
 CN Methanesulfonamide, 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]-,
 lithium salt (9CI) (CA INDEX NAME)



● Li

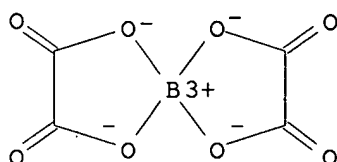
RN 244761-29-3 HCAPLUS
 CN Borate(1-), bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, lithium, (T-4)-
 (9CI) (CA INDEX NAME)



● Li⁺

L69 ANSWER 7 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:719417 HCAPLUS
 DN 138:41914
 TI Lithium Bis(oxalato)borate Stabilizes Graphite Anode in Propylene
Carbonate
 AU Xu, Kang; Zhang, Shengshui; Poesse, Bruce A.; Jow, T. Richard
 CS Sensor and Electronics Directorate, U.S. Army Research Laboratory,
 Adelphi, MD, 20783-1197, USA
 SO Electrochemical and Solid-State Letters (2002), 5(11), A259-A262
 CODEN: ESLEF6; ISSN: 1099-0062
 PB Electrochemical Society
 DT Journal
 LA English
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 AB Lithium bis(oxalato)borate (LiBOB) can stabilize graphitic anode materials
 in neat propylene **carbonate** (PC) while supporting reversible Li
 ion intercalation/deintercalation, a behavior not yet obsd. for
 electrolyte salts. This ability of LiBOB to protect graphite from
 exfoliation in PC enables reformulation of lithium-ion battery
 electrolytes, where the displacement of ethylene **carbonate**, a
 solvent with a high m.p., by PC, is not restricted by PC instability on
 the graphitic anode surface.
 ST lithium bisoxalatoborate graphite anode stabilization propylene
carbonate battery
 IT Battery anodes
 Battery electrolytes
 (stabilization of graphite battery anodes in propylene
carbonate with lithium bis(oxalato)borate)
 IT 96-49-1, Ethylene **carbonate** 108-32-7, Propylene
carbonate 623-53-0, Ethyl methyl **carbonate**
 RL: DEV (Device component use); USES (Uses)
 (electrolyte contg. solvent of; stabilization of graphite battery
 anodes in propylene **carbonate** with lithium
 bis(oxalato)borate)
 IT 244761-29-3, Lithium bis(oxalato)borate
 RL: DEV (Device component use); USES (Uses)
 (electrolyte; stabilization of graphite battery anodes in
 propylene **carbonate** with lithium bis(oxalato)borate)
 IT 7782-42-5, Graphite, uses
 RL: DEV (Device component use); USES (Uses)
 (stabilization of graphite battery anodes in propylene
carbonate with lithium bis(oxalato)borate)
 RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE

- (1) Arakawa, M; J Electroanal Chem 1987, V219, P273 HCAPLUS
 - (2) Besenhard, J; J Power Sources 1993, V43-44, P413
 - (3) Chusid, O; J Power Sources 1993, V43-44, P47
 - (4) Ding, S; J Electrochem Soc 2000, V147, P1688
 - (5) Ein-Eli, Y; Electrochem Solid-State Lett 1999, V2, P212 HCAPLUS
 - (6) Ein-Eli, Y; J Electrochem Soc 1997, V144, P823 HCAPLUS
 - (7) Ein Ely, Y; J Electrochem Soc 1996, V143, PL195
 - (8) Fong, R; J Electrochem Soc 1990, V137, P2009 HCAPLUS
 - (9) Franklin, R; Proc R Soc Edinburgh, Sect A: Math Phys Sci 1951, V209, P196
 - (10) Genies, S; Extended Abstracts of the Conference on the Electrochemistry of Carbon Allotropes 1997, P14
 - (11) Herreyre, S; J Power Sources 1993, V43-44, P413
 - (12) Lischka, U; DE 19829030 C1 1999 HCAPLUS
 - (13) Nakamura, H; J Power Sources 1996, V62, P219 HCAPLUS
 - (14) Ohta, A; J Power Sources 1995, V54, P6 HCAPLUS
 - (15) Ozawa, K; Solid State Ionics 1994, V69, P212 HCAPLUS
 - (16) Shu, Z; J Electrochem Soc 1993, V140, PL101 HCAPLUS
 - (17) Shu, Z; J Electrochem Soc 1995, V142, PL161 HCAPLUS
 - (18) Wrodnigg, G; J Electrochem Soc 1999, V146, P470 HCAPLUS
 - (19) Xu, K; Electrochem Solid-State Lett 2002, V5, PA26 HCAPLUS
 - (20) Xu, W; Electrochem Solid-State Lett 2001, V4, PE1 HCAPLUS
 - (21) Yoshio, M; J Electrochem Soc 2000, V147, P1245 HCAPLUS
- IT 244761-29-3, Lithium bis(oxalato)borate
 RL: DEV (Device component use); USES (Uses)
 (electrolyte; stabilization of graphite battery anodes in
 propylene carbonate with lithium bis(oxalato)borate)
- RN 244761-29-3 HCAPLUS
- CN Borate(1-), bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, lithium, (T-4)-
 (9CI) (CA INDEX NAME)



● Li⁺

L69 ANSWER 8 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:552216 HCAPLUS
 DN 137:111694
 TI Nonaqueous battery electrolytes containing organic liquids, lithium salts,
 and lithium bis(oxalato)borate
 IN Panitz, Jan-Christoph; Wietelmann, Ulrich; Scholl, Markus
 PA Chemetall G.m.b.H., Germany
 SO Ger., 8 pp.
 CODEN: GWXXAW
 DT Patent
 LA German
 IC ICM H01M010-40
 ICS C09K009-02
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10111410	C1	20020725	DE 2001-10111410	20010308
	DE 10209429	A1	20020912	DE 2002-10209429	20020305
	WO 2002071528	A2	20020912	WO 2002-EP2391	20020305
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	DE 2001-10111410	A1	20010308		
AB	Nonaq. battery electrolytes contain lithium bis(oxalato)borate (I) as well as other org. liqs. and addnl. salts. In addn. to I, the base electrolyte liq. contains: (1) a cyclic carbonate 10-30, (2) a second compd., selected from acyclic carbonates , aliph. esters, alicyclic ethers, and aliph. difunctional ethers 35-55, and (3) a third compd., selected from lactones, nitriles and dinitriles, carboxylic acid esters and ethers, trialkyl phosphate esters, and trialkyl borate esters. The electrolyte can contain a lithium salt, an alkali metal salt, or an ammonium salt, at a I-other salt wt. ratio of 80-99:1-20. The electrolyte contains 4-35 wt.% of the above salts. The electrolytes are also suitable for fabrication of electrochromic windows.				
ST	nonaq battery electrolyte lithium oxalatoborate; carbonate ester				
IT	lithium salt battery electrolyte; electrochromic window nonaq electrolyte				
IT	Ethers, uses				
	RL: TEM (Technical or engineered material use); USES (Uses) (diethers, electrolytes contg.; nonaq. battery electrolytes contg. org. liqs., lithium salts, and lithium bis(oxalato)borate)				
IT	Nitriles, uses				
	RL: TEM (Technical or engineered material use); USES (Uses) (dinitriles, electrolytes contg.; nonaq. battery electrolytes contg. org. liqs., lithium salts, and lithium bis(oxalato)borate)				
IT	Windows				
	(electrochromic, electrolytes for; nonaq. electrolytes contg. org. liqs., lithium salts, and lithium bis(oxalato)borate)				
IT	Esters, uses				
	Ethers, uses				
	Lactones				
	Nitriles, uses				
	RL: TEM (Technical or engineered material use); USES (Uses) (electrolytes contg.; nonaq. battery electrolytes contg. org. liqs., lithium salts, and lithium bis(oxalato)borate)				
IT	Battery electrolytes				
	(nonaq. battery electrolytes contg. org. liqs., lithium salts, and lithium bis(oxalato)borate)				
IT	Electrochromic devices				
	(windows, electrolytes for; nonaq. electrolytes contg. org. liqs., lithium salts, and lithium bis(oxalato)borate)				
IT	96-48-0, .gamma.-Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 110-71-4 463-79-6D, Carbonic acid, alkyl esters 503-81-1D, Dicarbonic acid, esters 616-38-6,				

Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 3967-54-2, Chloroethylene carbonate 4525-33-1, Dimethyl dicarbonate 7664-38-2D, Phosphoric acid, trialkyl esters 10043-35-3D, Boric acid, trialkyl esters 24424-99-5, Di-tert-butyl dicarbonate 244761-29-3 443751-60-8

RL: TEM (Technical or engineered material use); USES (Uses)

(electrolytes contg.; nonaq. battery electrolytes

contg. org. liqs., lithium salts, and lithium bis(oxalato)borate)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anon; DE 19633027 A1 HCAPLUS

(2) Anon; DE 19829030 C1 HCAPLUS

(3) Anon; DE 3942620 A1 HCAPLUS

IT 244761-29-3

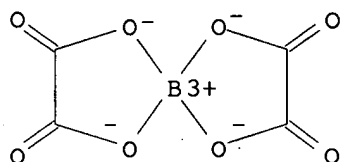
RL: TEM (Technical or engineered material use); USES (Uses)

(electrolytes contg.; nonaq. battery electrolytes

contg. org. liqs., lithium salts, and lithium bis(oxalato)borate)

RN 244761-29-3 HCAPLUS

CN Borate(1-), bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, lithium, (T-4)-(9CI) (CA INDEX NAME)



● Li⁺

L69 ANSWER 9 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:464572 HCAPLUS

DN 137:49655

TI Nonaqueous electrolyte battery

IN Sasaki, Hideki

PA Japan Storage Battery Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01M010-40

ICS H01M010-40; H01M004-02; H01M004-52; H01M004-62

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002175836	A2	20020621	JP 2000-371811	20001206
PRAI	JP 2000-371811		20001206		

AB The battery has Li intercalating electrodes and a nonaq. electrolyte soln. contg. [(C2O4)2B]Li. The battery cathode is preferably Nil-xCoxO2H or .beta.-FeOOH, and the battery may have a porous polymer electrode in or between its electrodes.

ST secondary battery electrolyte lithium bisoxalatoborate

IT Battery electrolytes
 (electrolyte solns. contg. lithium bis(oxalato)borate for secondary lithium batteries)

IT 104052-47-3, Cobalt nickel hydroxide oxide
 RL: DEV (Device component use); USES (Uses)
 (cathodes in secondary lithium batteries contg. lithium bis(oxalato)borate electrolytes)

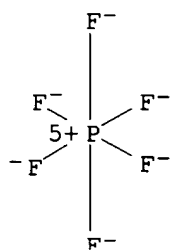
IT 96-49-1, Ethylene **carbonate** 105-58-8, Diethyl **carbonate** 21324-40-3, Lithium hexafluorophosphate 244761-29-3
 RL: DEV (Device component use); USES (Uses)
 (**electrolyte** solns. contg. lithium bis(oxalato)borate for secondary lithium batteries)

IT 11115-92-7, Iron hydroxide oxide
 RL: DEV (Device component use); USES (Uses)
 (.beta.-; cathodes in secondary lithium batteries contg. lithium bis(oxalato)borate electrolytes)

IT 21324-40-3, Lithium hexafluorophosphate 244761-29-3
 RL: DEV (Device component use); USES (Uses)
 (**electrolyte** solns. contg. lithium bis(oxalato)borate for secondary lithium batteries)

RN 21324-40-3 HCAPLUS

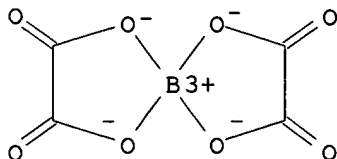
CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

RN 244761-29-3 HCAPLUS

CN Borate(1-), bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, lithium, (T-4)-(9CI) (CA INDEX NAME)

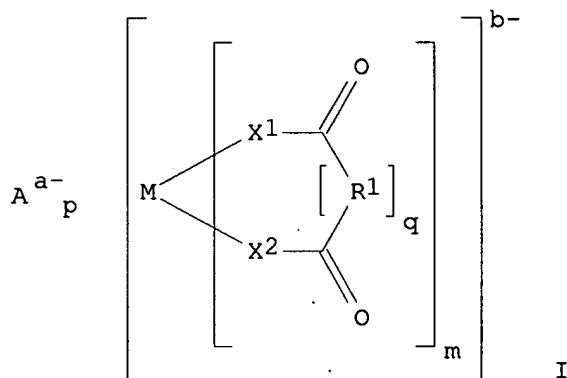


● Li⁺

L69 ANSWER 10 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:392159 HCAPLUS
 DN 136:388538
 TI Electrolyte for electrochemical device
 IN Tsujioka, Shoichi; Takase, Hironari; Takahashi, Mikihiro; Sugimoto, Hiromi; Koide, Makoto
 PA Japan
 SO U.S. Pat. Appl. Publ., 11 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM H01M010-40
 ICS H01G009-038
 NCL 429307000
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 76
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002061450	A1	20020523	US 2001-994670	20011128
	JP 2002164082	A2	20020607	JP 2000-360540	20001128
	JP 2002164083	A2	20020607	JP 2000-360541	20001128
	JP 2003068359	A2	20030307	JP 2001-257159	20010828
PRAI	JP 2000-360540	A	20001120		
	JP 2000-360541	A	20001128		
	JP 2001-257159	A	20010828		

GI



AB The invention relates to an electrolyte for an electrochem. device. This electrolyte includes a first compd. that is an ionic metal complex represented by the general formula (I); and at least one compd. selected from special second to fourth compds., fifth to ninth compds. resp. represented by the general formulas Aa+(PF6-)a, Aa+(ClO4-)a, Aa+(BF4-)a, Aa+(AsF6-)a, and Aa+(SbF6-)a, and special tenth to twelfth compds. The electrolyte is superior in cycle characteristics and shelf life as compared with conventional electrolytes.

ST battery electrolyte ion conductor electrolyte; capacitor electrolyte ion conductor electrolyte; electrochem device ion conductor electrolyte; lithium borate deriv electrolyte electrochem device

IT Electric apparatus
 (electrochem.; electrolyte for electrochem. device)

IT Battery electrolytes
Capacitors
Ionic conductivity
Polymer electrolytes
(electrolyte for electrochem. device)

IT Polyoxyalkylenes, uses
RL: MOA (Modifier or additive use); USES (Uses)
(electrolyte for electrochem. device)

IT 7429-90-5, Aluminum, uses
RL: DEV (Device component use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(current collector; electrolyte for electrochem. device)

IT 96-49-1, Ethylene **carbonate** 105-58-8, Diethyl **carbonate** 108-32-7, Propylene **carbonate** 616-38-6, Dimethyl **carbonate** 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 132843-44-8 183006-07-7 183006-15-7 244761-29-3 427879-42-3
RL: DEV (Device component use); USES (Uses)
(**electrolyte** for electrochem. device)

IT 90076-65-6 176719-70-3
RL: DEV (Device component use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(electrolyte for electrochem. device)

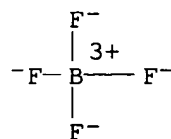
IT 25322-68-3, Peo
RL: MOA (Modifier or additive use); USES (Uses)
(electrolyte for electrochem. device)

IT 75-05-8, Acetonitrile, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(electrolyte for electrochem. device)

IT 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 132843-44-8 183006-07-7 183006-15-7 244761-29-3 427879-42-3
RL: DEV (Device component use); USES (Uses)
(**electrolyte** for electrochem. device)

RN 14283-07-9 HCAPLUS

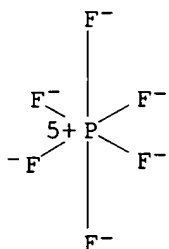
CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

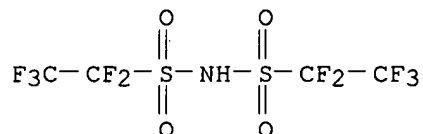
RN 21324-40-3 HCAPLUS

CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



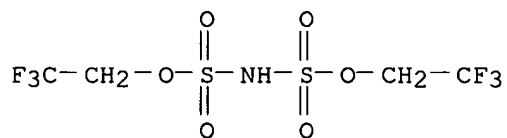
● Li⁺

RN 132843-44-8 HCAPLUS
CN Ethanesulfonamide, 1,1,2,2,2-pentafluoro-N-[(pentafluoroethyl)sulfonyl]-, lithium salt (9CI) (CA INDEX NAME)



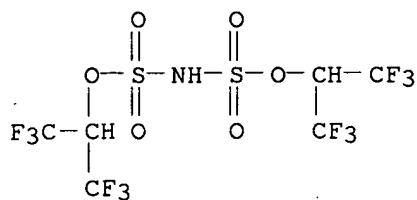
● Li

RN 183006-07-7 HCAPLUS
CN Imidodisulfuric acid, bis(2,2,2-trifluoroethyl) ester, lithium salt (9CI) (CA INDEX NAME)

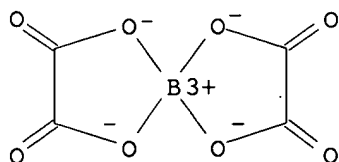


● Li

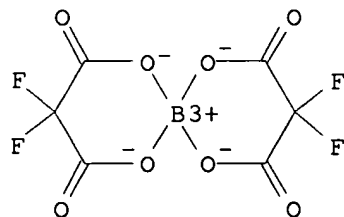
RN 183006-15-7 HCAPLUS
CN Imidodisulfuric acid, bis[2,2,2-trifluoro-1-(trifluoromethyl)ethyl] ester, lithium salt (9CI) (CA INDEX NAME)



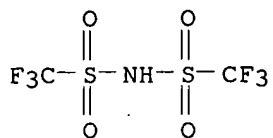
RN 244761-29-3 HCAPLUS
 CN Borate(1-), bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, lithium, (T-4)-
 (9CI) (CA INDEX NAME)



RN 427879-42-3 HCAPLUS
 CN Borate(1-), bis[difluoropropanedioato(2-)-.kappa.O1,.kappa.O3]-, lithium,
 (T-4)- (9CI) (CA INDEX NAME)

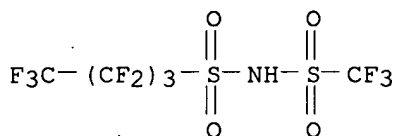


IT 90076-65-6 176719-70-3
 RL: DEV (Device component use); RCT (Reactant); RACT (Reactant or
 reagent); USES (Uses)
 (electrolyte for electrochem. device)
 RN 90076-65-6 HCAPLUS
 CN Methanesulfonamide, 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]-,
 lithium salt (9CI) (CA INDEX NAME)



● Li

RN 176719-70-3 HCAPLUS
 CN 1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-
 [(trifluoromethyl)sulfonyl]-, lithium salt (9CI) (CA INDEX NAME)



● Li

L69 ANSWER 11 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:272911 HCAPLUS
 DN 136:297397
 TI Electrolyte containing ionic metal complex for electrochemical device
 IN Tsujioka, Shoichi; Takase, Hironari; Takahashi, Mikihiro; Sugimoto,
 Hiromi; Koide, Makoto
 PA Central Glass Company, Limited, Japan
 SO Eur. Pat. Appl., 18 pp.
 CODEN: EPXXDW

DT Patent
 LA English
 IC ICM H01M010-40
 ICS C07F005-02
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1195834	A2	20020410	EP 2001-123577	20011001
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002110235	A2	20020412	JP 2000-303437	20001003
	JP 2002184460	A2	20020628	JP 2000-376730	20001212
	JP 2002184465	A2	20020628	JP 2000-376731	20001212
	JP 2002373703	A2	20021226	JP 2001-177867	20010613
	US 2002081496	A1	20020627	US 2001-969127	20011003
PRAI	JP 2000-303437	A	20001003		
	JP 2000-376730	A	20001212		
	JP 2000-376731	A	20001212		

(Preparation); USES (Uses)

(**electrolyte** contg. ionic metal complex for electrochem. device)

IT 24937-79-9, PvdF

RL: MOA (Modifier or additive use); USES (Uses)

(electrolyte contg. ionic metal complex for electrochem. device)

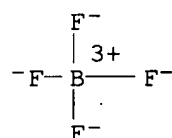
IT **14283-07-9**, Lithium tetrafluoroborate **21324-40-3**,
Lithium hexafluorophosphate **90076-65-6 132843-44-8**
176719-70-3 183006-07-7 183006-15-7
409071-17-6

RL: DEV (Device component use); USES (Uses)

(**electrolyte** contg. ionic metal complex for electrochem. device)

RN 14283-07-9 HCAPLUS

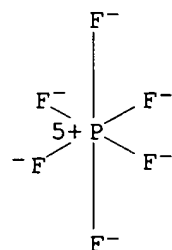
CN Borate(1-), tetrafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

RN 21324-40-3 HCAPLUS

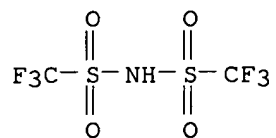
CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)



● Li⁺

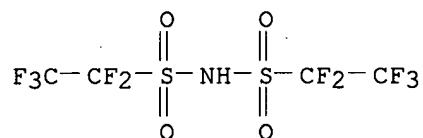
RN 90076-65-6 HCAPLUS

CN Methanesulfonamide, 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]-,
lithium salt (9CI) (CA INDEX NAME)



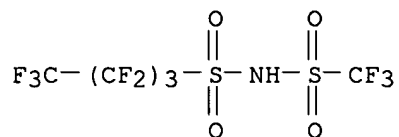
● Li

RN 132843-44-8 HCAPLUS
 CN Ethanesulfonamide, 1,1,2,2,2-pentafluoro-N-[(pentafluoroethyl)sulfonyl]-, lithium salt (9CI) (CA INDEX NAME)



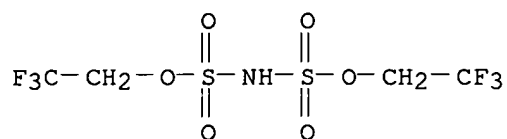
● Li

RN 176719-70-3 HCAPLUS
 CN 1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-[(trifluoromethyl)sulfonyl]-, lithium salt (9CI) (CA INDEX NAME)



● Li

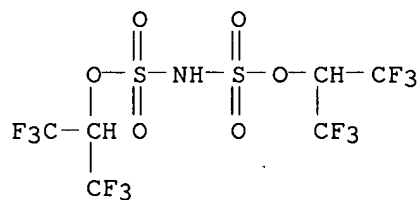
RN 183006-07-7 HCAPLUS
 CN Imidodisulfuric acid, bis(2,2,2-trifluoroethyl) ester, lithium salt (9CI) (CA INDEX NAME)



● Li

RN 183006-15-7 HCAPLUS

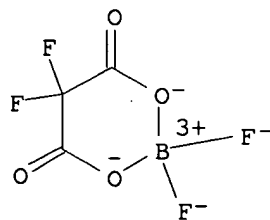
CN Imidodisulfuric acid, bis[2,2,2-trifluoro-1-(trifluoromethyl)ethyl] ester,
lithium salt (9CI) (CA INDEX NAME)



● Li

RN 409071-17-6 HCAPLUS

CN Borate(1-), [difluoropropanedioato(2-)-.kappa.O1,.kappa.O3]difluoro-, lithium, (T-4)- (9CI) (CA INDEX NAME)



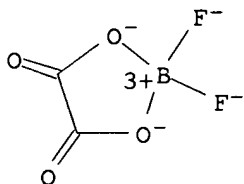
● Li

IT. 409071-16-5P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(**electrolyte** contg. ionic metal complex for electrochem. device)

RN 409071-16-5 HCAPLUS

CN Borate(1-), [ethanedioato(2-)-.kappa.O1,.kappa.O2]difluoro-, lithium,
(T-4)- (9CI) (CA INDEX NAME)

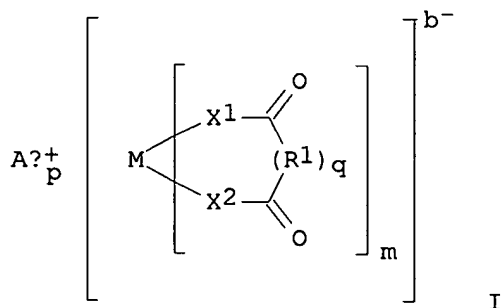


● Li⁺

L69 ANSWER 12 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2001:847741 HCAPLUS
 DN 136:9009
 TI Electrolyte for electrochemical device, electrolyte solution, and battery
 IN Tsujioka, Shoichi; Takase, Hiroshige; Takahashi, Mikihiro; Sugimoto,
Hiromi
 PA Central Glass Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM H01M010-40
 ICS C07F005-04; H01G009-038
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001325989	A2	20011122	JP 2000-291435	20000926
PRAI	JP 2000-61529	A	20000307		
OS	MARPAT 136:9009				
GI					

no Koide



AB The electrolyte is I, where M = transition metal or Group III, IV, or V element, Aa⁺ = metal ion, H⁺, or onium ion, a = 1-3, b = 1-3, p = b/a, m = 1-4, q = 0 or 1, R1 = C1-10 (halogenated) alkylene or C4-20 (halogenated) arylene group (the alkylene and arylene group may contain substituents or hetero elements, and may be connected to each other when m ≥ 2), X1 and X2 = O, S, or NR2, R2 = C1-10 (halogenated) alkylene or C4-20

(halogenated) arylene group (the alkylene and arylene group may contain substituents or hetero elements, and may connected to each other when .gtoreq.2 R2 exit). The electrolyte soln. contains the electrolyte dissolved in a nonaq. solvent. The battery use an electrolyte soln. contg. the electrolyte.

ST battery electrolyte complex anion salt compn

IT Battery electrolytes

(electrolytes contg. complex anions for secondary lithium batteries)

IT 96-49-1, Ethylene **carbonate** 108-32-7, Propylene

carbonate 616-38-6, Dimethyl **carbonate**

244761-29-3

RL: DEV (Device component use); USES (Uses)

(**electrolytes** contg. complex anions for secondary lithium batteries)

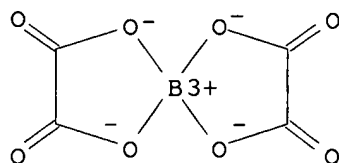
IT **244761-29-3**

RL: DEV (Device component use); USES (Uses)

(**electrolytes** contg. complex anions for secondary lithium batteries)

RN 244761-29-3 HCAPLUS

CN Borate(1-), bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, lithium, (T-4)-
(9CI) (CA INDEX NAME)



● Li⁺

L69 ANSWER 13 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:781401 HCAPLUS

DN 135:333323

TI Alkylspiroborate salts for use in electrochemical cells

IN Heider, Udo; Schmidt, Michael; Kuehner, Andreas; Schmenger, Andrea

PA Merck Patent G.M.B.H., Germany

SO U.S. Pat. Appl. Publ., 9 pp., Cont.-in-part of U.S. Ser. No. 732,899.

CODEN: USXXCO

DT Patent

LA English

IC H01M006-04; H01G009-035; C01B035-00; C01B035-00; C07F005-02

NCL 429188000

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 78

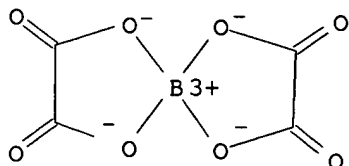
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	<u>US 2001033964</u>	A1	20011025	US 2001-758546	20010112
	DE 19959722	A1	20010613	DE 1999-19959722	19991210
PRAI	DE 1999-19959722	A	19991210		
	US 2000-732899	A2	20001211		
OS	MARPAT 135:333323				

- AB Alkylspiroborate salts having improved cond. and which are electrochem. stable are prep'd. for use as electrolytes in electrochem. cells, such as Li ion batteries. Thus, Li bis[perfluoropinacolyl-O,O'(2-)]borate(1-) (I) was prep'd. by reacting perfluoropinacol with Li methanolatoborate in PhMe. I showed excellent electrochem. stability and ionic cond. in EC/DMC solvent.
- ST alkylspiroborate salt prepn electrolyte lithium ion battery
- IT Electrochemical cells
Electrolytes
(alkylspiroborate salt electrolytes with improved electrochem. stability and ionic cond. for electrochem. cells)
- IT Secondary batteries
(lithium; alkylspiroborate salt electrolytes with improved electrochem. stability and ionic cond. for electrochem. cells)
- IT Electrolytic capacitors
(super; alkylspiroborate salt electrolytes with improved electrochem. stability and ionic cond. for electrochem. cells)
- IT 125599-65-7P 290827-01-9P 343783-56-2P 343783-58-4P 343783-59-5P
RL: PNU (Preparation, unclassified); PREP (Preparation)
(**electrolyte** with improved electrochem. stability and ionic cond. for electrochem. cells)
- IT 291298-96-9P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(**electrolyte** with improved electrochem. stability and ionic cond. for electrochem. cells)
- IT 77-98-5, Tetraethylammonium hydroxide 141-82-2, Malonic acid, reactions 144-62-7, Oxalic acid, reactions 554-13-2, Lithium **carbonate** 918-21-8, Perfluoropinacol 1941-19-1, Tetramethylphosphonium chloride 6867-35-2 10043-35-3, Boric acid, reactions 244761-29-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant; **electrolyte** with improved electrochem. stability and ionic cond. for electrochem. cells)
- IT 125599-65-7P 343783-56-2P 343783-58-4P 343783-59-5P
RL: PNU (Preparation, unclassified); PREP (Preparation)
(**electrolyte** with improved electrochem. stability and ionic cond. for electrochem. cells)
- RN 125599-65-7 HCAPLUS
- CN Ethanaminium, N,N,N-triethyl-, (T-4)-bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]borate(1-) (9CI) (CA INDEX NAME)

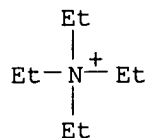
CM 1

CRN 125579-65-9
CMF C4 B 08
CCI CCS



CM 2

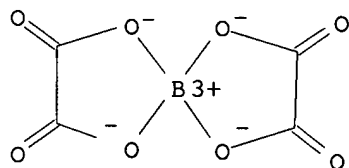
CRN 66-40-0
CMF C8 H20 N



RN 343783-56-2 HCAPLUS
CN Phosphonium, tetramethyl-, (T-4)-bis[ethanedioato(2-)-
.kappa.O1,.kappa.O2]borate(1-) (9CI) (CA INDEX NAME)

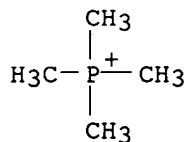
CM 1

CRN 125579-65-9
CMF C4 B O8
CCI CCS



CM 2

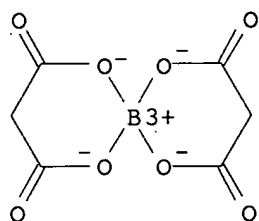
CRN 32589-80-3
CMF C4 H12 P



RN 343783-58-4 HCAPLUS
CN Phosphonium, tetramethyl-, (T-4)-bis[propanedioato(2-)-
.kappa.O1,.kappa.O3]borate(1-) (9CI) (CA INDEX NAME)

CM 1

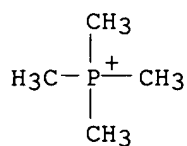
CRN 343783-57-3
CMF C6 H4 B O8
CCI CCS



CM 2

CRN 32589-80-3

CMF C4 H12 P



RN 343783-59-5 HCAPLUS

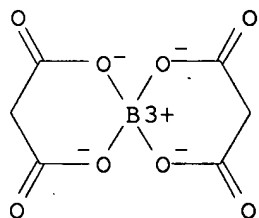
CN Ethanaminium, N,N,N-triethyl-, (T-4)-bis[propanedioato(2-)-
.kappa.O1,.kappa.O3]borate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 343783-57-3

CMF C6 H4 B O8

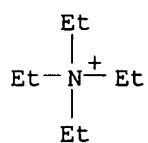
CCI CCS



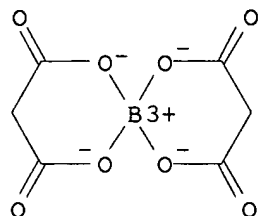
CM 2

CRN 66-40-0

CMF C8 H20 N

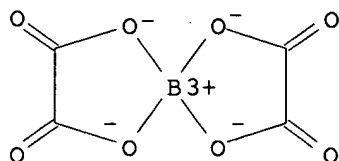


IT **291298-96-9P**
 RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation);
 RACT (Reactant or reagent)
 (**electrolyte** with improved electrochem. stability and ionic
 cond. for electrochem. cells)
 RN 291298-96-9 HCAPLUS
 CN Borate(1-), bis[propanedioato(2-)-.kappa.O1,.kappa.O3]-, lithium, (T-4)-
 (9CI) (CA INDEX NAME)



● Li⁺

IT **244761-29-3**
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reactant; **electrolyte** with improved electrochem. stability
 and ionic cond. for electrochem. cells)
 RN 244761-29-3 HCAPLUS
 CN Borate(1-), bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, lithium, (T-4)-
 (9CI) (CA INDEX NAME)



● Li⁺

L69 ANSWER 14 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2001:432892 HCAPLUS
 DN 135:35195
 TI Alkyl-spiroborate salts and their use in electrochemical cells
 IN Heider, Udo; Schmidt, Michael; Kuhner, Andreas; Schmenger, Andrea
 PA Merck Patent G.m.b.H., Germany
 SO Eur. Pat. Appl., 15 pp.
 CODEN: EPXXDW
 DT Patent
 LA German
 IC ICM C07F005-04

ICS C07F009-54; H01M010-40

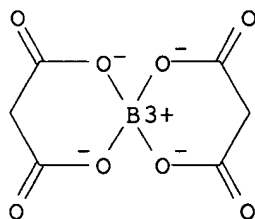
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

Section cross-reference(s): 72, 78

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1106617	A2	20010613	EP 2000-125236	20001123
	EP 1106617	A3	20020828		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	DE 19959722	A1	20010613	DE 1999-19959722	19991210
	CN 1304937	A	20010725	CN 2000-135042	20001207
	JP 2001220393	A2	20010814	JP 2000-374770	20001208
	BR 2000005824	A	20020226	BR 2000-5824	20001211
PRAI	DE 1999-19959722	A	19991210		
AB	A process for the prepn. of borate salts of the general formula $Mx+[BR_1R_2R_3R_4]x/yy-$ (I), wherein M represents a metal ion, tetraalkylammonium, tetralkylphosphonium or amido(alkyl)phosphonium and wherein x and y represent nos. 1-6 and wherein R1-R4 represent the same or different substituents chosen from alkoxy, carboxy (C1-C8), F, Cl, fluoroalkylamido, fluoroalkyloxy or fluoroalkylsulfonyl, comprises reaction of lithium borate, $LiBR_1R_2R_3$, with $Mx+$ salt. Borate salts I can be used in the manufg. of electrolytes for electrochem. cells, batteries or superconductors.				
ST	spiroborate alkyl salt prepn electrochem cell conductance battery superconductor				
IT	Battery electrolytes Electric conductivity Electrochemical cells Superconductors (prepn. of alkyl-spiroborate salts and their use in electrochem. cells)				
IT	Spiro compounds RL: DEV (Device component use); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses) (prepn. of alkyl-spiroborate salts and their use in electrochem. cells)				
IT	Secondary batteries (prepn. of alkylspiroboratye salts and their use in manufg. of electrolytes for electrochem. cells, batteries or superconductors)				
IT	918-21-8, Perfluoropinacol RL: RCT (Reactant); RACT (Reactant or reagent) (coupling reaction with lithium methoxyborate)				
IT	6867-35-2, Lithium tetramethanolatoborate(1-) RL: RCT (Reactant); RACT (Reactant or reagent) (coupling reaction with perfluoropinacol)				
IT	291298-96-9P RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (prepn. and reaction with tetramethylphosphonium chloride)				
IT	125599-65-7P 343783-56-2P 343783-58-4P 343783-59-5P RL: DEV (Device component use); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses) (prepn. and use in manufg. of electrolytes for electrochem. cells, batteries or superconductors)				
IT	290827-01-9P RL: DEV (Device component use); NUU (Other use, unclassified); PEP				

- (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses) (prepn., ionic conductance measurements and use in manufg. of electrolytes for electrochem. cells, batteries or superconductors)
- IT 1941-19-1, Tetramethylphosphonium chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with lithium bis(oxalato)borate)
- IT 141-82-2, Malonic acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with lithium **carbonate** and boric acid)
- IT 554-13-2, Lithium **carbonate**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with malonic acid and boric acid)
- IT 77-98-5, Tetraethylammonium hydroxide
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with oxalic and boric acids)
- IT 144-62-7, Oxalic acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with tetraethylammonium hydroxide and boric acid)
- IT 10043-35-3, Boric acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with tetraethylammonium hydroxide and oxalic acid)
- IT **244761-29-3**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with tetramethylphosphonium chloride)
- IT **291298-96-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction with tetramethylphosphonium chloride)
- RN 291298-96-9 HCAPLUS
- CN Borate(1-), bis[propanedioato(2-)-.kappa.O1,.kappa.O3]-, lithium, (T-4)-(9CI) (CA INDEX NAME)



● Li⁺

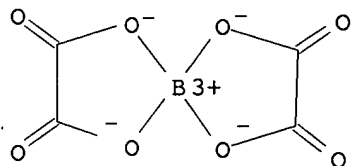
- IT **125599-65-7P 343783-56-2P 343783-58-4P 343783-59-5P**
RL: DEV (Device component use); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses) (prepn. and use in manufg. of **electrolytes** for electrochem. cells, batteries or superconductors)
- RN 125599-65-7 HCAPLUS
- CN Ethanaminium, N,N,N-triethyl-, (T-4)-bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]borate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 125579-65-9

CMF C4 B O8

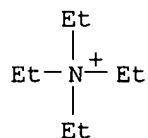
CCI CCS



CM 2

CRN 66-40-0

CMF C8 H20 N



RN 343783-56-2 HCAPLUS

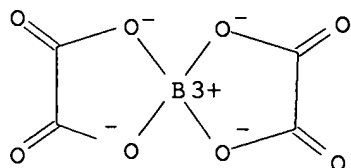
CN Phosphonium, tetramethyl-, (T-4)-bis[ethanedioato(2-)-
.kappa.O1,.kappa.O2]borate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 125579-65-9

CMF C4 B O8

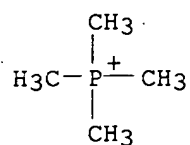
CCI CCS



CM 2

CRN 32589-80-3

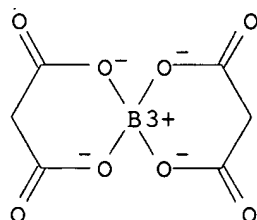
CMF C4 H12 P



RN 343783-58-4 HCAPLUS
 CN Phosphonium, tetramethyl-, (T-4)-bis[propanedioato(2-)-
 .kappa.O1,.kappa.O3]borate(1-) (9CI) (CA INDEX NAME)

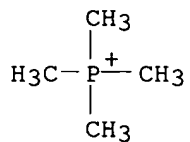
CM 1

CRN 343783-57-3
 CMF C6 H4 B O8
 CCI CCS



CM 2

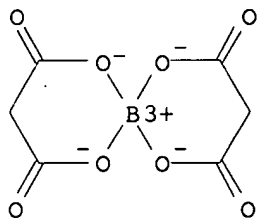
CRN 32589-80-3
 CMF C4 H12 P



RN 343783-59-5 HCAPLUS
 CN Ethanaminium, N,N,N-triethyl-, (T-4)-bis[propanedioato(2-)-
 .kappa.O1,.kappa.O3]borate(1-) (9CI) (CA INDEX NAME)

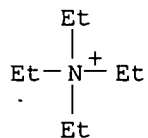
CM 1

CRN 343783-57-3
 CMF C6 H4 B O8
 CCI CCS

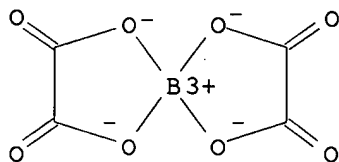


CM 2

CRN 66-40-0
CMF C8 H20 N



IT **244761-29-3**
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction with tetramethylphosphonium chloride)
 RN 244761-29-3 HCAPLUS
 CN Borate(1-), bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, lithium, (T-4)-
 (9CI) (CA INDEX NAME)



● Li⁺

L69 ANSWER 15 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2000:725896 HCAPLUS
 DN 133:298811
 TI Method for manufacturing active material of positive plate for nonaqueous
 electrolyte secondary cell
 IN Li, Guohua; Yamada, Atsuo
 PA Sony Corporation, Japan
 SO PCT Int. Appl., 88 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 IC ICM H01M004-58

ICS H01M010-40; H01M004-04

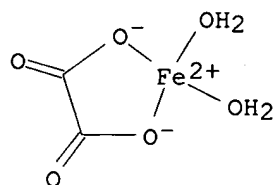
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000060679	A1	20001012	WO 2000-JP1915	20000328
	W: CA, CN, JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	CA 2334386	AA	20001012	CA 2000-2334386	20000328
	EP 1094532	A1	20010425	EP 2000-911428	20000328
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	TW 494595	B	20020711	TW 2000-89106123	20000331
PRAI	JP 1999-99407	A	19990406		
	JP 1999-274746	A	19990928		
	JP 1999-274747	A	19990928		
	WO 2000-JP1915	W	20000328		
AB	A method for manufg. an active material of a pos. plate which is doped/dedoped well reversely with/of lithium comprises mixing materials including a reducing agent to be used as a synthetic material of a compd. whose compn. is expressed by a general formula $LixMyPO_4$ (where $0 < x.ltoeq.2$, $0.8.ltoeq.y.ltoeq.1.2$, and M is at least one element selected from 3d-transition metals) to produce a precursor and firing the precursor..				
ST	pos electrode lithium dopant secondary cell; secondary cell nonaq electrolyte pos electrode				
IT	Secondary batteries (nonaq. electrolyte; method for manufg. active material of pos. plate for nonaq. electrolyte secondary cell)				
IT	Battery electrodes (pos.; method for manufg. active material of pos. plate for nonaq. electrolyte secondary cell)				
IT	554-13-2, Lithium carbonate 3094-87-9, Ferrous acetate 6047-25-2 , Ferrous oxalate dihydrate 6156-78-1, Manganese acetate tetrahydrate 7722-76-1, Ammonium dihydrogen phosphate RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses) (in manuf. of active material of pos. plate for nonaq. electrolyte secondary cell)				
IT	13826-59-0P, Lithium manganese phosphate 213467-46-0P, Iron lithium manganese phosphate ($FeLi_2Mn(PO_4)_2$) RL: IMF (Industrial manufacture); PREP (Preparation) (manuf. of active material of pos. plate for nonaq. electrolyte secondary cell)				
IT	13816-45-0P, Triphylite ($FeLi(PO_4)$) RL: IMF (Industrial manufacture); PREP (Preparation) (method for manufg. active material of pos. plate for nonaq. electrolyte secondary cell)				
RE.CNT	4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD				
RE	(1) Nippon Telegr & Teleph Corp <NTT>; JP 06-283207 A 1994 HCAPLUS (2) Nippon Telegr & Teleph Corp <NTT>; JP 09-134724 A 1997 HCAPLUS (3) Sony Corporation; JP 09-171827 A 1997 HCAPLUS (4) Yuasa Corporation; JP 10-312789 A 1998 HCAPLUS				
IT	6047-25-2 , Ferrous oxalate dihydrate RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)				

(in manuf. of active material of pos. plate for nonaq.
electrolyte secondary cell)

RN 6047-25-2 HCAPLUS

CN Iron, diaqua[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, (T-4)- (9CI) (CA
INDEX NAME)

L69 ANSWER 16 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:645789 HCAPLUS

DN 133:225580

TI Use of additives in electrolytes for improved performance of
electrochemical cellsIN Heider, Udo; Schmidt, Michael; Amann, Anja; Niemann, Marlies; Kuhner,
Andreas

PA Merck Patent G.m.b.H., Germany

SO Eur. Pat. Appl., 26 pp.

CODEN: EPXXDW

DT Patent

LA German

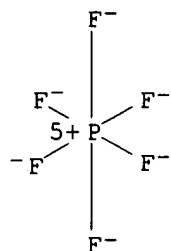
IC ICM H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1035612	A1	20000913	EP 2000-102355	20000204
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	DE 19910968	A1	20001109	DE 1999-19910968	19990312
	JP 2000268863	A2	20000929	JP 2000-41336	20000218
	WO 2000055935	A1	20000921	WO 2000-EP1611	20000226
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	BR 2000008938	A	20011218	BR 2000-8938	20000226
	US 6548212	B1	20030415	US 2000-524922	20000313
PRAI	DE 1999-19910968	A	19990312		
	WO 2000-EP1611	W	20000226		
OS	MARPAT 133:225580				
AB	Battery electrolyte comprising an aprotic solvent with dissolved Li contg. inorg. or org. salts from the group of methanides, triflates, and imides includes .gtoreq.1 O, eg. alkali metal salt additive. The additive is selected from the groups of org. alkali metal borate or alkali metal alcoholate.				

ST battery electrolyte additive org borate alcoholate
 IT Secondary batteries
 (lithium; use of additives in electrolytes for improved performance of electrochem. cells)
 IT Battery electrolytes
 (use of additives in electrolytes for improved performance of electrochem. cells)
 IT 96-49-1, Ethylene **carbonate** 616-38-6, Dimethyl **carbonate** 12057-17-9, Lithium manganese oxide LiMn_2O_4 12190-79-3, Cobalt lithium oxide CoLiO_2 **21324-40-3**, Lithium hexafluorophosphate
 RL: DEV (Device component use); USES (Uses)
 (use of additives in electrolytes for improved performance of electrochem. cells)
 IT 555-24-8, Lithium phenolate 114691-84-8 156762-86-6 161589-07-7 184947-42-0 185433-68-5 199450-08-3 201536-28-9 227099-53-8 **244761-29-3 291298-96-9**
 RL: MOA (Modifier or additive use); USES (Uses)
 (use of additives in **electrolytes** for improved performance of electrochem. cells)
 RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE
 (1) Barthel, J; J ELECTROCHEM SOC 1997, 11
 (2) Barthel, J; JOURNAL OF THE ELECTROCHEMICAL SOCIETY 2000, 1, HCAPLUS
 (3) Bolster, M; US 5691083 A 1997 HCAPLUS
 (4) Centre Nat Etd Spatiales; FR 2704099 A 1994 HCAPLUS
 (5) Hitachi, M; EP 0631340 A 1994 HCAPLUS
 (6) Hundrup, B; DE 19654057 A 1975 HCAPLUS
 (7) Hundrup, B; WO 9828807 A 1998 HCAPLUS
 (8) Merck Patent GmbH; WO 9807729 A 1998 HCAPLUS
 (9) Wuhr, M; US 5660947 A 1997 HCAPLUS
 IT **21324-40-3**, Lithium hexafluorophosphate
 RL: DEV (Device component use); USES (Uses)
 (use of additives in electrolytes for improved performance of electrochem. cells)
 RN 21324-40-3 HCAPLUS
 CN Phosphate(1-), hexafluoro-, lithium (8CI, 9CI) (CA INDEX NAME)

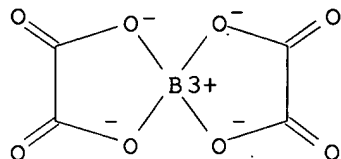


● Li^+

IT **244761-29-3 291298-96-9**
 RL: MOA (Modifier or additive use); USES (Uses)
 (use of additives in **electrolytes** for improved performance of electrochem. cells)

RN 244761-29-3 HCAPLUS

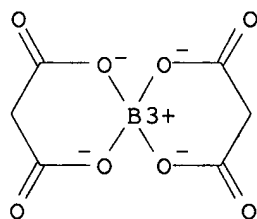
CN Borate(1-), bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, lithium, (T-4)-
(9CI) (CA INDEX NAME)



● Li⁺

RN 291298-96-9 HCAPLUS

CN Borate(1-), bis[propanedioato(2-)-.kappa.O1,.kappa.O3]-, lithium, (T-4)-
(9CI) (CA INDEX NAME)



● Li⁺

L69 ANSWER 17 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1998:807597 HCAPLUS

DN 130:130971

TI Double layer effects in the electrode kinetics of quasi-equilibrium redox reactions

AU Astakhova, Ravzat K.; Balushkina, Safia R.; Savvy, I. V.; Malev, V. V.

CS Department of Chemistry, St. Petersburg University, Petrodvorets, 198904, Russia

SO Electrochimica Acta (1998), 44(6-7), 967-975

CODEN: ELCAAV; ISSN: 0013-4686

PB Elsevier Science Ltd.

DT Journal

LA English

CC 72-2 (Electrochemistry)

Section cross-reference(s): 67

AB In oxalate solns. the Ru(III)/Ru(II) electrode reaction on the dropping mercury electrode (dme) proceeds under equil. conditions with a supporting electrolyte excess, but becomes quasi-equil. and, further on, completely irreversible with the gradual decrease in the base electrolyte concn. These changes in the reversibility of the reaction are in accord with the general concepts of electrochem. kinetics, as it follows from a moment's

consideration including the use of the Broensted rule to describe the double layer structural influence on the kinetics of such quasi-equil. reactions. The participation of base electrolyte cations in the elementary act of the studied reaction seems to be most probable in the scope of the accepted outer sphere treatment.

- ST double layer effect electrode kinetics quasiequilibrium redox reaction; excess supporting electrolyte ruthenium oxalato complex electroredn
- IT Electrode reaction kinetics
(double layer effects in electrode kinetics of quasi-equil. reactions)
- IT Electric double layer
(double layer effects in electrode kinetics of quasi-equil. redox reactions)
- IT Redox reaction kinetics
(electrochem.; double layer effects in electrode kinetics of quasi-equil. redox reactions)
- IT Reduction kinetics
(electrochem.; of ruthenium-oxalato complex on mercury in Na₂C₂O₄-Na₂SO₄ electrolyte: double layer effects in electrode kinetics of quasi-equil. redox reactions)
- IT Reduction, electrochemical
(of ruthenium-oxalato complex on mercury in Na₂C₂O₄-Na₂SO₄ electrolyte)
- IT Polarography
(of ruthenium-oxalato complex on mercury in Na₂C₂O₄-Na₂SO₄ electrolyte: double layer effects in electrode kinetics of quasi-equil. redox reactions)
- IT Electrolytes
(supporting, excess; in electrochem. redn. of ruthenium-oxalato complex on mercury)
- IT 7439-97-6, Mercury, uses
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(electrochem. redn. of ruthenium-oxalato complex on mercury in Na₂C₂O₄-Na₂SO₄ electrolyte: double layer effects in electrode kinetics of quasi-equil. redox reactions)
- IT 62-76-0, Disodium oxalate 7757-82-6, Disodium **sulfate**, uses
RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
(electrochem. redn. of ruthenium-oxalato complex on mercury in Na₂C₂O₄-Na₂SO₄ electrolyte: double layer effects in electrode kinetics of quasi-equil. redox reactions)
- IT **25072-75-7**, Ruthenate(3-), Tris(oxalato)-
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(electrochem. redn. on mercury in Na₂C₂O₄-Na₂SO₄ **electrolyte**: double layer effects in electrode kinetics of quasi-equil. redox reactions)
- IT **126894-98-2**
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(formation in electrochem. redn. of ruthenium-oxalato complexes on mercury in Na₂C₂O₄-Na₂SO₄ **electrolyte**: double layer effects in electrode kinetics of quasi-equil. redox reactions)

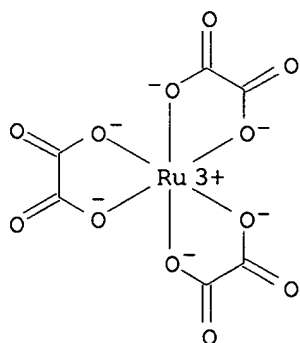
RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

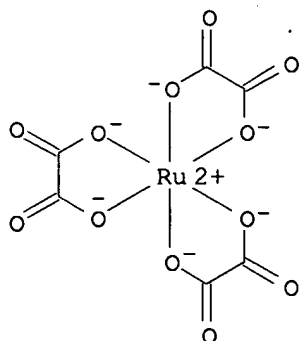
- (1) Charonat, R; Ann Chim 1931, V16(Seria X), P1
- (2) Delahay, P; Double Layer and Electrode Kinetics 1965
- (3) Frumkin, A; Potentials of Zero Charge ch IX 1979
- (4) Grafov, B; Dokl Acad Nauk SSSR 1962, V146, P135 HCAPLUS
- (5) Grafov, B; Zhur Fiz Khim 1963, V37, P664 HCAPLUS
- (6) Heyrovsky, J; Principles of Polarography ch XW 1966
- (7) Kaziro, R; Inorg Chim Acta 1989, V164, P85 HCAPLUS
- (8) Malev, V; Elektrokhemia 1970, V6, P1817 HCAPLUS

- (9) Messaric, S; Croat Chem Acta 1958, V30, P81
- (10) Neiman, E; Zhur Anal Khim 1990, V45, P1602 HCAPLUS
- (11) Petrii, O; Dokl Akad Nauk SSSR 1962, V147, P147
- (12) Russel, C; J Electroanal Chem 1963, V6, P441
- (13) Wagnerova, D; Coll Chechoslov Comm 1962, V27, P1130 HCAPLUS
- (14) Ya, V; Vestn Leningr Univ 1970, VVI, P81

IT **25072-75-7**, Ruthenate(3-), Tris(oxalato)-
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
 (electrochem. redn. on mercury in Na₂C₂O₄-Na₂SO₄ **electrolyte**:
 double layer effects in electrode kinetics of quasi-equil. redox
 reactions)
 RN 25072-75-7 HCAPLUS
 CN Ruthenate(3-), tris[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, (OC-6-11)-
 (9CI) (CA INDEX NAME)



IT **126894-98-2**
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
 (formation in electrochem. redn. of ruthenium-oxalato complexes on
 mercury in Na₂C₂O₄-Na₂SO₄ **electrolyte**: double layer effects
 in electrode kinetics of quasi-equil. redox reactions)
 RN 126894-98-2 HCAPLUS
 CN Ruthenate(4-), tris[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, (OC-6-11)-
 (9CI) (CA INDEX NAME)



L69 ANSWER 18 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 1998:804121 HCAPLUS
 DN 130:40951

TI High-temperature stable secondary nonaqueous-electrolyte battery and its manufacture
 IN Murata, Toshihide; Bito, Yasuhiko; Ito, Shuji; Toyoguchi, Yoshinori; Sato, Toshitada
 PA Matsushita Electric Industrial Co., Ltd., Japan
 SO Eur. Pat. Appl., 32 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 IC ICM H01M004-62
 ICS H01M010-40; H01M004-02
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 883200	A2	19981209	EP 1998-110363	19980605
	EP 883200	A3	19990707		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 11191417	A2	19990713	JP 1998-147260	19980528
	US 6150053	A	20001121	US 1998-86844	19980529
	CN 1202019	A	19981216	CN 1998-109566	19980605
	CN 1100356	B	20030129		
PRAI	JP 1997-149121	A	19970606		
	JP 1997-289426	A	19971022		
AB	The battery includes a substance which produces either H ₂ O or CO ₂ with an increase in temp., i.e., at 60-300 or 80-300.degree., resp. The substance is included in the battery cathode or anode at 0.5-20 wt. parts/100 wt. parts of the active material of the corresponding electrode. Examples of the substance which produces H ₂ O include hydroxides and compds. having H ₂ O of crystn. Examples of the substance which produces gaseous CO ₂ include carbonates and hydrogen carbonates .				
ST	battery nonaq electrolyte high temp stable; water formation nonaq electrolyte battery; carbon dioxide formation nonaq electrolyte battery				
IT	Secondary batteries (lithium, lithium-ion; high-temp. stable nonaq.-electrolyte)				
IT	124-38-9P, Carbon dioxide, preparation 7732-18-5P, Water, preparation RL: PNU (Preparation, unclassified); PREP (Preparation) (high-temp. stable secondary nonaq.-electrolyte batteries contg. substance producing)				
IT	139-12-8, Aluminum acetate 144-55-8, Sodium bicarbonate , uses 298-14-6, Potassium bicarbonate 373-02-4, Nickel acetate 471-34-1, Calcium carbonate , uses 497-19-8, Carbonic acid disodium salt, uses 513-77-9 546-93-0, Magnesium carbonate 563-71-3, Iron carbonate (FeCO ₃) 584-08-7 584-09-8, Rubidium carbonate 814-87-9, Aluminum oxalate 917-69-1, Cobalt acetate 1305-62-0, Calcium hydroxide, uses 1308-04-9, Cobalt oxide (Co ₂ O ₃) 1309-42-8, Magnesium hydroxide 1313-99-1, Nickel oxide (NiO), uses 1344-28-1, Alumina, uses 3333-67-3, Nickel carbonate (NiCO ₃) 3486-35-9, Zinc carbonate 7446-70-0, Aluminum chloride, uses 7542-09-8, Cobalt carbonate 7784-30-7, Aluminum phosphate 7786-81-4, Nickel sulfate 10043-01-3, Aluminum sulfate 10043-35-3, Boric acid, uses 10101-41-4, Calcium sulfate dihydrate 10294-50-5, Cobalt phosphate octahydrate 10381-36-9, Nickel phosphate 12026-04-9, Nickel hydroxide oxide (Ni(OH)O) 12026-24-3, Tin hydroxide (Sn(OH) ₂) 12054-48-7, Nickel hydroxide (Ni(OH) ₂) 12134-11-1, Chromium hydroxide (Cr(OH) ₂) 12233-29-3 12534-24-6 13138-45-9, Nickel nitrate 13455-31-7 ,				

Cobalt perchlorate 13455-36-2, Cobalt phosphate **13637-71-3**,
 Nickel perchlorate 14475-63-9, Zirconium hydroxide 15519-28-5, Cesium
bicarbonate 18933-05-6, Manganese hydroxide (Mn(OH)2)
 19088-74-5, Rubidium **bicarbonate** 20338-08-3 20344-49-4, Iron
 hydroxide oxide (Fe(OH)O) 20427-58-1, Zinc hydroxide 21041-93-0,
 Cobalt hydroxide (Co(OH)2) 21041-95-2, Cadmium hydroxide 21645-51-2,
 Aluminum hydroxide, uses 34053-87-7, Barium nitrate monohydrate
 67092-84-6 134761-87-8, Cobalt oxalate

RL: MOA (Modifier or additive use); USES (Uses)

(in high-temp. stable secondary nonaq.-**electrolyte** batteries)

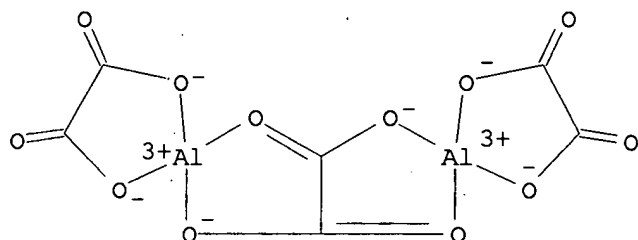
IT **814-87-9**, Aluminum oxalate **13455-31-7**, Cobalt
 perchlorate **13637-71-3**, Nickel perchlorate

RL: MOA (Modifier or additive use); USES (Uses)

(in high-temp. stable secondary nonaq.-**electrolyte** batteries)

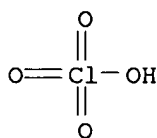
RN 814-87-9 HCAPLUS

CN Aluminum, [.mu.-[ethanedioato(2-)-.kappa.O1,.kappa.O2':.kappa.O1',.kappa.O
 2]]bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]di- (9CI) (CA INDEX NAME)



RN 13455-31-7 HCAPLUS

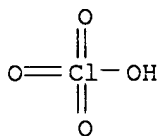
CN Perchloric acid, cobalt(2+) salt (8CI, 9CI) (CA INDEX NAME)



● 1/2 Co(II)

RN 13637-71-3 HCAPLUS

CN Perchloric acid, nickel(2+) salt (8CI, 9CI) (CA INDEX NAME)



● 1/2 Ni(II)

- L69 ANSWER 19 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 1998:610839 HCAPLUS
 DN 129:295174
 TI Recharge of oxalate complexes of ruthenium(III) from solutions with an excess of supporting electrolyte
 AU Savvi, I. V.; Astakhova, R. K.; Balushkina, S. R.; Malev, V. V.
 CS St. Petersburg State University, St. Petersburg, 199164, Russia
 SO Russian Journal of Electrochemistry (Translation of Elektrokimiya) (1998), 34(8), 712-717
 CODEN: RJELE3; ISSN: 1023-1935
 PB MAIK Nauka/Interperiodica Publishing
 DT Journal
 LA English
 CC 72-2 (Electrochemistry)
 Section cross-reference(s): 67
 AB Kinetics and mechanism pertaining to electroredn. of trioxalato complexes of ruthenium(III) were studied by the polarog. techniques. Electrochem. redn. of trioxalato complexes of ruthenium(III) on a dropping mercury electrode in solns. contg. an excess of a supporting electrolyte occurs under reversible conditions in accordance with the reaction $[\text{Ru}(\text{C}_2\text{O}_4)_3]^{3-} + e \rightarrow [\text{Ru}(\text{C}_2\text{O}_4)_3]^{4-}$. The recharge process starts virtually at the point of zero charge of mercury and has a well-pronounced plateau of limiting current that persists for 400 mV. The latter creates favorable conditions for the emergence of the so-called .psi.1 effect in the system under study upon its diln. with respect to the supporting electrolyte.
 ST ruthenium oxalato electroredn kinetics excess electrolyte; polarog kinetics ruthenium oxalato excess electrolyte
 IT Polarography
 (a.c.; of ruthenium-oxalato complexes)
 IT Reduction kinetics
 (electrochem.; of ruthenium-oxalato complexes on dropping mercury electrode in excess of supporting electrolyte)
 IT Reduction, electrochemical
 (of ruthenium-oxalato complexes on dropping mercury electrode in excess of supporting electrolyte)
 IT Electrolytes
 (supporting; electrochem. redn. kinetics of ruthenium-oxalato complexes on dropping mercury electrode in excess of supporting electrolyte)
 IT 7439-97-6, Mercury, uses
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (electrochem. redn. kinetics of ruthenium-oxalato complexes on dropping mercury electrode in excess of supporting electrolyte)
 IT 7757-82-6, Sodium **sulfate**, uses 10294-54-9, Cesium **sulfate**
 RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)

(electrochem. redn. kinetics of ruthenium-oxalato complexes on dropping mercury electrode in excess of supporting electrolyte)

IT 25072-75-7, Ruthenate(3-), tris(oxalato)-

RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)

(electrochem. redn. kinetics on dropping mercury electrode in excess of supporting electrolyte)

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (7) Heyrovsky, J; Osnovy polyarografii 1978
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- (9) Kaziro, R; Inorg Chim Acta 1989, V164, P85 HCAPLUS
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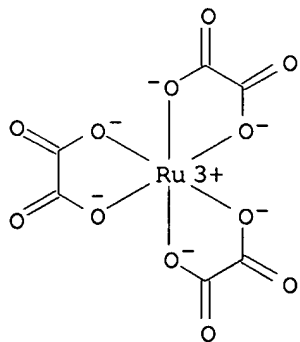
IT 25072-75-7, Ruthenate(3-), tris(oxalato)-

RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)

(electrochem. redn. kinetics on dropping mercury electrode in excess of supporting electrolyte)

RN 25072-75-7 HCAPLUS

CN Ruthenate(3-), tris[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, (OC-6-11)-(9CI) (CA INDEX NAME)



L69 ANSWER 20 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1998:298304 HCAPLUS

DN 129:56526

TI Safety organic-electrolyte secondary batteries inhibiting rupture and explosion at high temperature

IN Nakai, Kenji

PA Shin-Kobe Electric Machinery Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01M004-60

ICS H01M004-02; H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10125327	A2	19980515	JP 1996-281019	19961023
PRAI	JP 1996-281019		19961023		

AB Cathodes of the title batteries comprise org. metal salts which generate gases at .gtoreq.65.degree.. The salts are selected from (A) **carbonate** of Zn, Y, In, Er, Cd, Ag, Cr, Sm, Dy, Zr, Sc, Cs, Ce, Tl, Fe, Tb, Cu, Nd, Bi, Pr, Be, or La, (B) oxalate of Zn, Al, ammonium, Yb, Y, In, Er, Cd, Gd, K, Ga, Ca, Ag, Cr, Co, Sm, Zr, Sc, Sn, Cs, Ce, Tl, Ti, Tm, Fe, Cu, Th, Na, Pb, Nb, Ni, Nd, V, Ba, Bi, Pr, Be, Ho, Mg, Mn, Eu, La, or Rb, and (C) .gtoreq.1 selected from Li acetate, acetylacetonatolithium, Li benzoate, Li citrate, Li formate, DL-Li lactate, Li pyruvate, Li stearate, Li tartrate, Li trifluoroacetate, and Li trichloroacetate. The batteries (esp. Li batteries) inhibit rupture and explosion at high temp. such as at overcharging or in combustion furnaces.

ST lithium battery cathode additive org salt; oxalate salt lithium battery cathode additive; **carbonate** salt lithium battery cathode additive; metal salt lithium battery cathode additive; safety lithium battery antiexplosion

IT Battery cathodes

Safety

(safety org.-electrolyte secondary batteries using cathodes contg. org. metal salts which decomp. and generate gases at high temp.)

IT **Carbonates**, uses

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(safety org.-electrolyte secondary batteries using cathodes contg. org. metal salts which decomp. and generate gases at high temp.)

IT 62-76-0, Sodium oxalate 513-78-0, Cadmium **carbonate** (CdCO₃)
 516-02-9, Barium oxalate 533-51-7, Silver oxalate 534-16-7 534-17-8,
 Cesium **carbonate** (Cs₂CO₃) 537-01-9, Cerium **carbonate**
537-03-1, Lanthanum oxalate 546-89-4, Lithium acetate
 547-66-0, Magnesium oxalate 547-68-2, Zinc oxalate 553-54-8, Lithium
 benzoate 556-28-5, Yttrium **carbonate** [Y₂(CO₃)₃] 556-63-8,
 Lithium formate 563-72-4 587-26-8, Lanthanum **carbonate**
 [La₂(CO₃)₃] 640-67-5, Manganese oxalate **814-87-9**, Aluminum
 oxalate 814-88-0, Cadmium oxalate 814-93-7, Lead oxalate 867-55-0
867-63-0 867-64-1, Gadolinium oxalate 868-17-7,
 Lithium tartrate, uses 919-16-4, Lithium citrate **996-34-9**
 1113-38-8, Ammonium oxalate **1186-50-1** 2040-52-0, Thorium
 oxalate 2922-61-4, Lithium pyruvate 2923-17-3, Lithium
 trifluoroacetate 3173-18-0, Beryllium oxalate **3252-68-4**,
 Samarium oxalate **3269-10-1**, Praseodymium oxalate
3269-12-3 3269-15-6 3269-17-8 3486-35-9,
 Zinc **carbonate** (ZnCO₃) 4485-12-5, Lithium stearate 5066-15-9
 5066-34-2, Dysprosium **carbonate** 5809-49-4, Scandium
carbonate 5895-46-5, Neodymium **carbonate** [Nd₂(CO₃)₃]
 6067-34-1, Terbium **carbonate** 6067-35-2, Erbium
carbonate 6533-73-9, Thallium **carbonate** 6591-55-5
 7047-99-6, Cerium oxalate 7057-72-9, Copper oxalate 7492-68-4, Copper

carbonate 10010-65-8, Rubidium oxalate 10043-22-8, Potassium oxalate 10290-71-8, Iron **carbonate** 13106-47-3, Beryllium **carbonate** 14475-17-3, Praseodymium **carbonate** 14536-19-7, Zirconium oxalate 14536-20-0 14676-93-8, Chromium oxalate 14677-00-0, Titanium oxalate 14974-48-2, Vanadium oxalate 15843-42-2, Iron oxalate 16508-95-5 18115-70-3, Acetylacetonatolithium, uses 18130-42-2, Cobalt oxalate 18365-41-8, Cesium oxalate 19326-49-9, Lithium trichloroacetate 20543-06-0, Nickel oxalate 21348-59-4, Niobium oxalate 25880-71-1, Samarium **carbonate** 29689-14-3 30737-24-7, Thallium oxalate 36577-48-7, Zirconium **carbonate** 51407-18-2, Scandium oxalate 60459-04-3, Indium **carbonate** 70764-38-4 126476-37-7, Yttrium oxalate

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(safety org.-**electrolyte** secondary batteries using cathodes contg. org. metal salts which decomp. and generate gases at high temp.)

IT 537-03-1, Lanthanum oxalate 814-87-9, Aluminum oxalate

867-63-0 867-64-1, Gadolinium oxalate 996-34-9

1186-50-1 3252-68-4, Samarium oxalate 3269-10-1

, Praseodymium oxalate 3269-12-3 3269-15-6

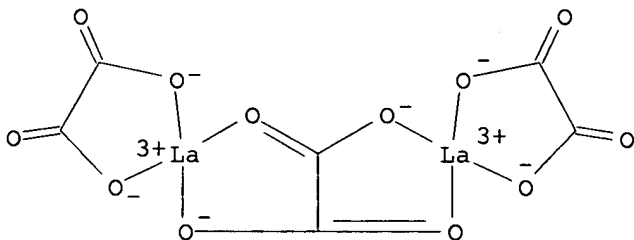
3269-17-8

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(safety org.-**electrolyte** secondary batteries using cathodes contg. org. metal salts which decomp. and generate gases at high temp.)

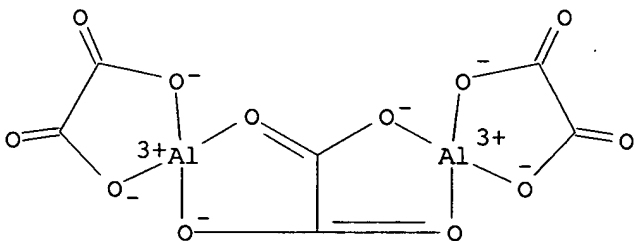
RN 537-03-1 HCAPLUS

CN Lanthanum, [.mu.-[ethanedioato(2-)-.kappa.O1,.kappa.O2':.kappa.O1',.kappa.O2]]bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]di- (9CI) (CA INDEX NAME)



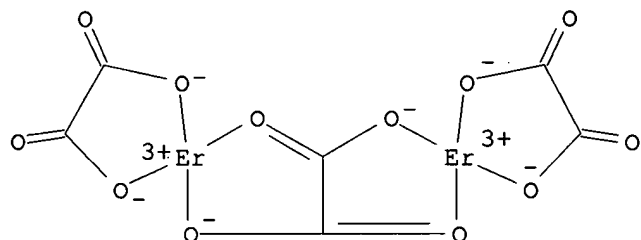
RN 814-87-9 HCAPLUS

CN Aluminum, [.mu.-[ethanedioato(2-)-.kappa.O1,.kappa.O2':.kappa.O1',.kappa.O2]]bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]di- (9CI) (CA INDEX NAME)



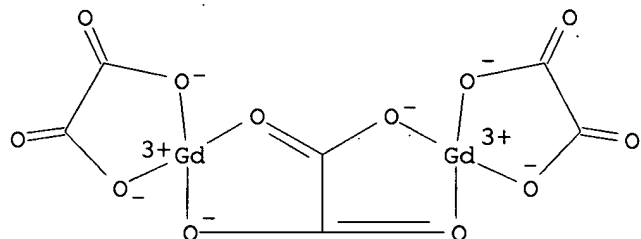
RN 867-63-0 HCAPLUS

CN Erbium, [.mu.-[ethanedioato(2-)-.kappa.O1,.kappa.O2':.kappa.O1',.kappa.O2]
]bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]di- (9CI) (CA INDEX NAME)



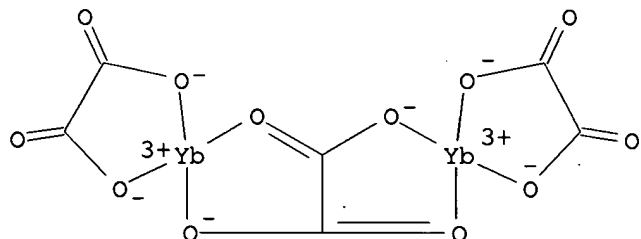
RN 867-64-1 HCAPLUS

CN Gadolinium, [.mu.-[ethanedioato(2-)-.kappa.O1,.kappa.O2':.kappa.O1',.kappa.O2]]bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]di- (9CI) (CA INDEX NAME)



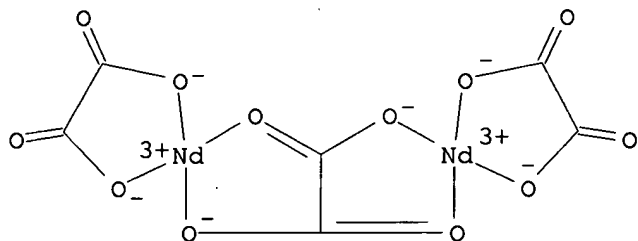
RN 996-34-9 HCAPLUS

CN Ytterbium, [.mu.-[ethanedioato(2-)-.kappa.O1,.kappa.O2':.kappa.O1',.kappa.O2]]bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]di- (9CI) (CA INDEX NAME)



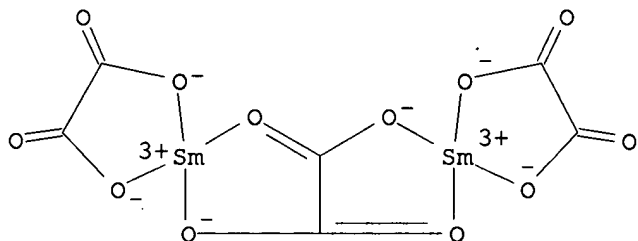
RN 1186-50-1 HCAPLUS

CN Neodymium, [.mu.-[ethanedioato(2-)-.kappa.O1,.kappa.O2':.kappa.O1',.kappa.O2]]bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]di- (9CI) (CA INDEX NAME)



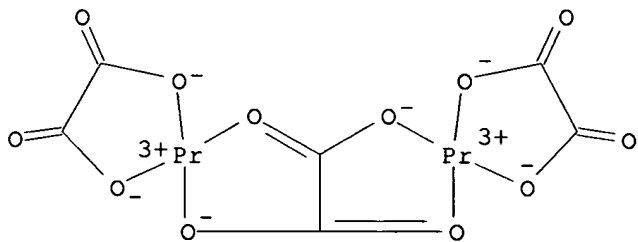
RN 3252-68-4 HCAPLUS

CN Samarium, [.mu.-[ethanedioato(2-)-.kappa.O1,.kappa.O2':.kappa.O1',.kappa.O2]]bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]di- (9CI) (CA INDEX NAME)



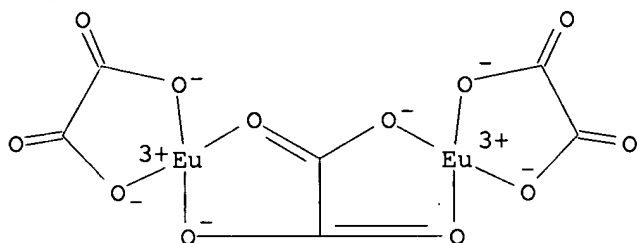
RN 3269-10-1 HCAPLUS

CN Praseodymium, [.mu.-[ethanedioato(2-)-.kappa.O1,.kappa.O2':.kappa.O1',.kappa.O2]]bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]di- (9CI) (CA INDEX NAME)



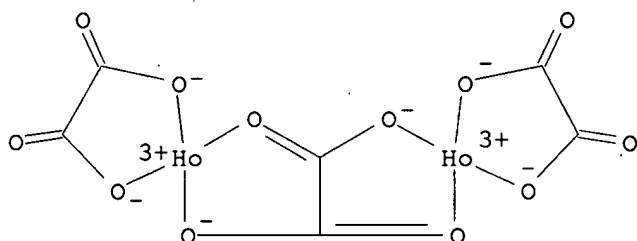
RN 3269-12-3 HCAPLUS

CN Europium, [.mu.-[ethanedioato(2-)-.kappa.O1,.kappa.O2':.kappa.O1',.kappa.O2]]bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]di- (9CI) (CA INDEX NAME)



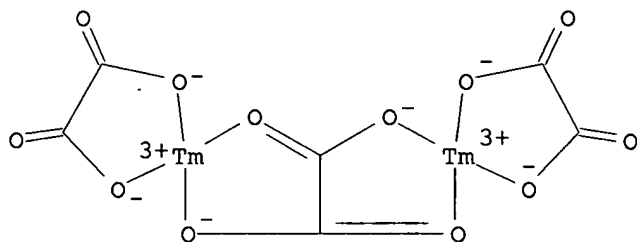
RN 3269-15-6 HCAPLUS

CN Holmium, [.mu.-[ethanedioato(2-)-.kappa.O1,.kappa.O2':.kappa.O1',.kappa.O2]]bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]di- (9CI) (CA INDEX NAME)



RN 3269-17-8 HCAPLUS

CN Thulium, [.mu.-[ethanedioato(2-)-.kappa.O1,.kappa.O2':.kappa.O1',.kappa.O2]]bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]di- (9CI) (CA INDEX NAME)



L69 ANSWER 21 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:332528 HCAPLUS

DN 124:348218

TI Manufacture of solid electrolyte tubes for sodium/sulfur batteries

IN Murata, Kazuo

PA Yuasa Battery Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01M010-39

ICS C04B035-113

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08064235	A2	19960308	JP 1994-203406	19940829
PRAI	JP 1994-203406		19940829		

AB The electrolyte tubes are prep'd. by copptg. a salt mixt. and .beta.- and/or .beta."-alumina powder from an aq. soln. contg. dissolved Na, Al, and Mg and/or Li; calcining the ppt. at 300-1300.degree.; granulating the calcined powder; and sintering at 1500-1700.degree.. The salt is preferably (bi)carbonate, oxalate, citrate, and/or formate.

ST sodium lithium magnesium aluminate electrolyte manuf; beta alumina sodium sulfur battery electrolyte

IT Battery electrolytes
(manuf. of .beta.-type alumina based solid electrolyte tubes by copptn. for sodium/sulfur batteries)

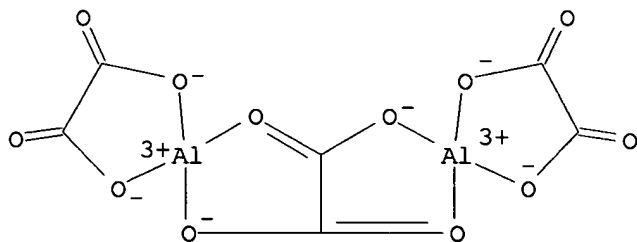
IT Aluminates
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(.beta.-type; manuf. of .beta.-type alumina based solid electrolyte tubes by copptn. for sodium/sulfur batteries)

IT 62-76-0, Sodium oxalate 547-66-0, Magnesium oxalate **814-87-9**, Aluminum oxalate 7439-93-2D, Lithium, compds. 12005-16-2, .beta."-Alumina 12005-48-0, .beta.-Alumina
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(manuf. of .beta.-type alumina based solid **electrolyte** tubes by copptn. for sodium/sulfur batteries)

IT **814-87-9**, Aluminum oxalate
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(manuf. of .beta.-type alumina based solid **electrolyte** tubes by copptn. for sodium/sulfur batteries)

RN 814-87-9 HCAPLUS

CN Aluminum, [.mu.-[ethanedioato(2-)-.kappa.O1,.kappa.O2':.kappa.O1',.kappa.O2]]bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]di- (9CI) (CA INDEX NAME)



L69 ANSWER 22 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1995:371026 HCAPLUS

DN 122:145422

TI Composition and thermal stability of anodic aluminum oxides

AU Vikharev, A. V.; Kompaneets, E. Yu.; Solov'eva, N. A.

CS Altai, Gos. Tekh. Univ., Barnaul, Russia

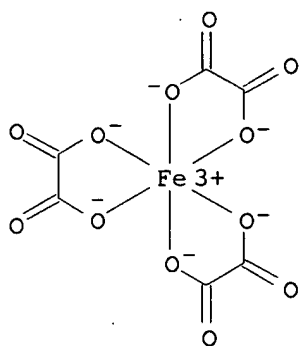
SO Zhurnal Prikladnoi Khimii (Sankt-Peterburg) (1994), 67(7), 1100-3
CODEN: ZPKHAB; ISSN: 0044-4618

PB Nauka

DT Journal

LA Russian

- CC 72-7 (Electrochemistry)
 Section cross-reference(s): 56
- AB A chem. anal. and derivatog. study were made of anodic oxides of Al obtained in different electrolytes (e.g. H₂SO₄, Na₂SO₄ + H₂SO₄, H₂C₂O₄, as well as CrO₃ alone and with Na₂SO₄, KNO₃, KMnO₄, K₃[Fe(C₂O₄)₃].3H₂O, K₃[Fe(CN)₆] or Na₂SiF₆). The anodic oxides of Al represent unique clathrates, in which the role of host is fulfilled by the Al₂O₃ matrix and the role of guest by structural anions. The nature and quantity of structural anions are detd. by the specificity of a specific anodic oxide of Al. The simplest and most effective method for modifying the compn. and properties of the anodic films is the pertinent selection of anodization electrolytes.
- ST compn thermal stability anodic oxide aluminum; anodization selection electrolyte anodic oxide; structural anion role anodic aluminum oxide
- IT Coating materials
 (anodic aluminum oxide coating compn. and thermal stability)
- IT Anodization
 (anodization of aluminum and compn. and thermal stability of anodic oxides)
- IT 7722-64-7, Potassium permanganate 7757-79-1, Potassium nitrate, uses 13746-66-2, Potassium ferricyanide **14883-34-2**, Tripotassium trioxalatoferate(3-) 16893-85-9, Sodium hexafluorosilicate
 RL: NUU (Other use, unclassified); USES (Uses)
 (anodic aluminum oxide coatings from baths contg. chromic acid and other **electrolytes**)
- IT 1344-28-1P; Aluminum oxide, properties
 RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
 (anodic aluminum oxide coatings from baths contg. chromic acid and other electrolytes)
- IT 144-62-7, Oxalic acid, uses 1333-82-0, Chromium trioxide 7664-93-9, Sulfuric acid, uses 7757-82-6, Disodium **sulfate**, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (anodic aluminum oxide coatings from baths contg. various electrolytes)
- IT 7429-90-5, Aluminum, processes
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (anodization of aluminum and compn. and thermal stability of anodic oxides)
- IT **14883-34-2**, Tripotassium trioxalatoferate(3-)
 RL: NUU (Other use, unclassified); USES (Uses)
 (anodic aluminum oxide coatings from baths contg. chromic acid and other **electrolytes**)
- RN 14883-34-2 HCAPLUS
- CN Ferrate(3-), tris[ethanedioato(2-)-.kappa.O1,.kappa.O2]-, tripotassium, (OC-6-11)- (9CI) (CA INDEX NAME)



● 3 K⁺

L69 ANSWER 23 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 1992:83918 HCAPLUS
 DN 116:83918
 TI Preparation of boron-quaternary ammonium salt complexes
 IN Shiono, Kazuji; Kishi, Takaaki; Kanekawa, Kumiko
 PA Sanyo Chemical Industries, Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese
 IC ICM C07F005-02
 ICS B01J031-22
 CC 29-4 (Organometallic and Organometalloidal Compounds)
 Section cross-reference(s): 67, 72

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03181487	A2	19910807	JP 1989-322006	19891211
PRAI	JP 1989-322006		19891211		
OS	MARPAT 116:83918				

AB The title compds., useful as catalysts, and as electrolytes for condensers, electroplating, electrolytic polishing, etc., are prepd. in high purity by treatment of H₃BO₃ with OH compds. and quaternary ammonium **carbonates**. A MeOH soln. of 19.1 parts Et₃MeN⁺ MeCO₃⁻ was added dropwise to a mixt. of 6.2 parts H₃BO₃ and 13 parts HOCH₂CH₂OH under bubbling with N at 20-50.degree. and the reaction mixt. was refluxed for 2 h to give 24.5 parts methyltriethylammonium bis(ethylenedioxolato)borate (I), while a control reaction using Et₃MeN⁺ OH⁻ gave a mixt. of I and polymeric impurities.

ST boron complex quaternary ammonium salt; ethylenedioxolatoborate quaternary ammonium salt electrolyte

IT Catalysts and Catalysis
 (boron-quaternary ammonium salt complexes)

IT Electrodeposition and Electroplating
 (electrolytes for, boron-quaternary ammonium salt complexes as)

IT Quaternary ammonium compounds, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (**carbonates**, reaction of, with boric acid and hydroxy

compds., boron-quaternary ammonium salt complexes from)

IT Quaternary ammonium compounds, compounds
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (complexes, with boron compds., prepn. of, as catalysts and electrolytes)

IT Polishing
 (electrochem., electrolytes for, boron-quaternary ammonium salt complexes as)

IT Electric capacitors
 (electrolytic, electrolytes for, boron-quaternary ammonium salt complexes as)

IT Hydroxy compounds
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (org., reaction of with boric acid and quaternary ammonium **carbonate**, boron-quaternary ammonium salt complexes from)

IT 134043-83-7P 134044-05-6P **138394-43-1P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of, as catalyst and **electrolyte**)

IT 7440-42-8DP, Boron, complexes with quaternary ammonium salts
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of, as catalysts and electrolytes)

IT 79-14-1, Glycolic acid, reactions 107-21-1, Ethylene glycol, reactions 144-62-7, Oxalic acid, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of with boric acid and quaternary ammonium **carbonate**, borate complex with quaternary ammonium salt from)

IT 113840-08-7, Methyltriethylammonium **methylcarbonate**
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with boric acid and hydroxy compds., boron complex with quaternary ammonium salts from)

IT 463-79-6D, Carbonic acid, quaternary ammonium salts
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with boric acid and hydroxy compds., boron complexes with quaternary ammonium salts from)

IT 10043-35-3, Boric acid, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with hydroxy compds. and quaternary ammonium **carbonate**, boron complexes with quaternary ammonium salts from)

IT **138394-43-1P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of, as catalyst and **electrolyte**)

RN 138394-43-1 HCAPLUS

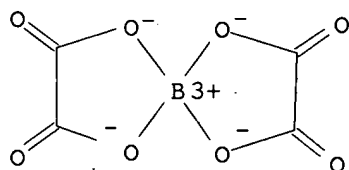
CN Ethanaminium, N,N-diethyl-N-methyl-, (T-4)-bis[ethanedioato(2-)-O,O']borate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 125579-65-9

CMF C4 B 08

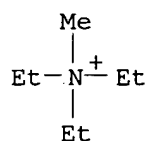
CCI CCS



CM 2

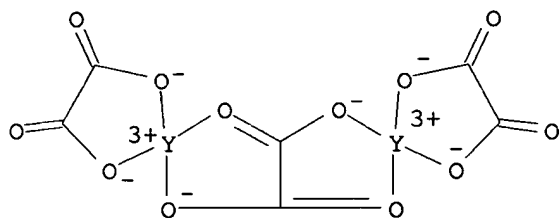
CRN 302-57-8

CMF C7 H18 N



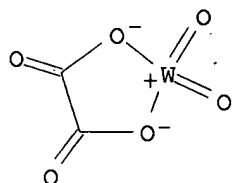
- L69 ANSWER 24 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 1990:602687 HCAPLUS
 DN 113:202687
 TI Wet chemical techniques for passivation of yttrium barium copper oxide (YBa₂Cu₃O_{7-x})
 AU Vasquez, R. P.; Hunt, B. D.; Foote, M. C.
 CS Cent. Space Microelectron. Technol., California Inst. Technol., Pasadena, CA, 91109, USA
 SO AIP Conference Proceedings (1990), 200(High T Supercond. Thin Films: Process., Charact., Appl.), 189-96
 CODEN: APCPCS; ISSN: 0094-243X
 DT Journal
 LA English
 CC 76-4 (Electric Phenomena)
 Section cross-reference(s): 78
 AB Wet chem. techniques are described for treatment of YBa₂Cu₃O_{7-x} surfaces, resulting in the formation of native compds. with little or no reactivity with water. Promising native compds. include CuI, BaSO₄, CuS, Cu₂S, YF₃, and the oxalates. Formation of surface layers on chem.-treated YBa₂Cu₃O_{7-x} films in which these nonreactive native compds. are major constituents is verified with XPS. No significant changes are obsd. in the spectra when the sulfide, **sulfate**, or oxalate films are dipped in water, while the iodide and fluoride films show evidence of reaction with water.
 ST barium copper yttrium oxide superconductor; passivation cuprate superconductor **sulfate** sulfide; iodide fluoride oxalate superconductor passivation
 IT Superconductors
 . (barium copper yttrium oxide, passivation of, with different electrolyte solns., reaction with water in relation to)
 IT Passivation
 (of superconductor 123 by different electrolyte treatment)
 IT 7440-39-3, Barium, uses and miscellaneous 7440-50-8, Copper, uses and

- miscellaneous 7440-65-5, Yttrium, uses and miscellaneous 7782-44-7, Oxygen, uses and miscellaneous
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (XPS spectra of, in barium copper yttrium oxide superconductor, with passivation effect on)
- IT 144-62-7, Oxalic acid, uses and miscellaneous 1313-82-2, Disodium sulfide, uses and miscellaneous 7664-93-9, Sulfuric acid, uses and miscellaneous 10034-85-2, Hydroiodic acid
 RL: USES (Uses)
 (barium copper yttrium oxide superconductor treatment with soln. of, passivation in)
- IT 7787-32-8, Barium difluoride 7787-33-9, Barium diiodide dihydrate 7789-19-7, Copper difluoride 12039-19-9, Yttrium sesquisulfide 13266-82-5 13510-71-9 21109-95-5, Barium sulfide
 RL: USES (Uses)
 (core level binding energy for components of, comparison with barium copper yttrium oxide superconductor treated with different electrolytes)
- IT 7758-98-7, Copper monosulfate, properties
 RL: PRP (Properties)
 (core level binding energy for components of, comparison with barium copper yttrium oxide superconductor treated with different electrolytes)
- IT 1317-40-4, Copper monosulfide 7681-65-4, Copper monoiodide 7727-43-7, Barium sulfate 13709-49-4, Yttrium trifluoride 22205-45-4, Dicopper sulfide
 RL: TEM (Technical or engineered material use); USES (Uses)
 (passivation with, of barium copper yttrium oxide superconductor, reaction with water in relation to)
- IT 7732-18-5, Water, properties
 RL: PRP (Properties)
 (reaction of barium copper yttrium oxide with, degrdn. in, passivation effect on)
- IT 109064-29-1D, Barium copper yttrium oxide (Ba₂Cu₃Y₂O₇), oxygen-deficient
 RL: TEM (Technical or engineered material use); USES (Uses)
 (superconductor, passivation of, by treatment with different electrolyte solns.)
- IT 64-17-5, Ethanol, uses and miscellaneous
 RL: USES (Uses)
 (treatment of barium copper yttrium oxide superconductor with bromine in, passivation in relation to)
- IT 7726-95-6, Bromine, uses and miscellaneous
 RL: TEM (Technical or engineered material use); USES (Uses)
 (treatment with ethanolic soln. of, of barium copper yttrium oxide superconductor, passivation in relation to)
- IT 13266-82-5
 RL: USES (Uses)
 (core level binding energy for components of, comparison with barium copper yttrium oxide superconductor treated with different electrolytes)
- RN 13266-82-5 HCAPLUS
 CN Yttrium, [.mu.-[ethanedioato(2-)-O,O''':O',O'']]bis[ethanedioato(2-)-O,O']di-, nonahydrate (9CI) (CA INDEX NAME)

●9 H₂O

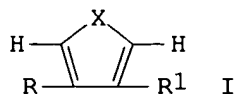
- L69 ANSWER 25 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 1989:104757 HCAPLUS
 DN 110:104757
 TI Electrochromic windows using solid polymer electrolytes
 AU Tada, Hiroaki; Bito, Yasuhiko; Fujino, Kozo; Kawahara, Hideo
 CS Cent. Res. Lab., Nippon Sheet Glass Co., Ltd., Itami, 664, Japan
 SO Proceedings - Electrochemical Society (1988), 88-23(Proc. Symp.
 Electrochem. Technol. Electron., 1987), 325-37
 CODEN: PESODO; ISSN: 0161-6374
 DT Journal
 LA English
 CC 74-9 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)
 AB All-solid-state transmissive electrochromic devices using solvent-free
 solid polymer electrolytes, (In-Sn-oxide (ITO)/W compd. film/solid polymer
 electrolyte/Prussian blue film, were evaluated from the standpoint of
 application to electrochromic windows with dynamic solar radiation control
 for lighting and heating. As the electrolytes, 2 kinds of solid polymer
 electrolytes based on poly(ethylene oxide) are used. One of them is a
 thermosetting polyurethane network, the other is a photocrosslinked
 electrolyte composed of poly(ethylene glycol acrylate). The luminous
 transmittance can be controlled between 68% and 19%, and the transmittance
 of solar radiation can be arbitrarily regulated between 56% and 14%.
 ST solid polymer electrolyte electrochromic window
 IT Polyelectrolytes
 (complexes, based on polyethylene oxide, crosslinked, solid
 electrolytes from, for electrochromic windows)
 IT Optical imaging devices
 (electrochromic, using solid polymer electrolytes)
 IT 25322-68-3D, triol derives., polymers with hexamethylene diisocyanate
 RL: USES (Uses)
 (crosslinked electrolyte film contg., electrochromic windows using)
 IT 822-06-0D, polymers with polyethylene glycol triol derivs.
 RL: USES (Uses)
 (crosslinked electrolyte film contg., electrochromic windows using)
 IT **119242-52-3D**, complex
 RL: USES (Uses)
 (electrochromic windows using solid polymer **electrolytes** and
 Prussian blue film and)
 IT 12240-15-2, Prussian blue
 RL: USES (Uses)
 (electrochromic windows using solid polymer electrolytes and tungsten

compd. film and film of)
 IT 40850-20-2D, potassium complex
 RL: USES (Uses)
 (electrolyte film contg. **trichloromethanesulfonate**,
 photocrosslinked, for electrochromic windows)
 IT 7440-09-7D, Potassium, polymer complexes based on ethylene oxide
 RL: USES (Uses)
 (electrolyte films contg. **trichloromethanesulfonate** from, for
 electrochromic windows)
 IT 119242-52-3D, complex
 RL: USES (Uses)
 (electrochromic windows using solid polymer **electrolytes** and
 Prussian blue film and)
 RN 119242-52-3 HCAPLUS
 CN Tungstate(1-), [ethanedioato(2-)-O,O']dioxo-, (T-4)- (9CI) (CA INDEX
 NAME)



L69 ANSWER 26 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 1988:642475 HCAPLUS
 DN 109:242475
 TI A solid-electrolyte capacitor and a method for fabricating the capacitor
 IN Kaneko, Atsuko; Koseki, Tetsuya
 PA Nippon Chemi-Con Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM H01G009-02
 CC 76-10 (Electric Phenomena)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63102308	A2	19880507	JP 1986-249350	19861020
	JP 04019693	B4	19920331		
PRAI	JP 1986-249350		19861020		
OS	MARPAT 109:242475				
GI					



AB A solid-electrolyte capacitor has a polymer layer (e.g., polypyrrole) from
 a 5-membered heterocyclic compd. I (X = NR₂, S, O, or Se; and R, R₁, R₂ =

H, alkyl, or aryl) on a dielec. film. Optionally, the polymer film may be formed using an oxidizing agent. A method for fabricating the capacitor is also described.

ST polymer solid electrolyte capacitor

IT Electric capacitors

(polymer solid electrolytes for)

IT 106-51-4, Quinone, uses and miscellaneous 1287-09-8 1309-60-0, Lead oxide (PbO₂) **2944-66-3** 3251-23-8, Cupric nitrate 7447-39-4, Cupric chloride, uses and miscellaneous 7697-37-2, Nitric acid, uses and miscellaneous 7705-08-0, Iron trichloride, uses and miscellaneous 7722-84-1, Hydrogen peroxide, uses and miscellaneous 7727-21-1 7727-54-0 7758-98-7, Cupric **sulfate**, uses and miscellaneous 7789-45-9, Cupric bromide 10028-15-6, Ozone, uses and miscellaneous 10031-26-2 10421-48-4, Ferric nitrate 13746-66-2 15843-42-2

RL: TEM (Technical or engineered material use); USES (Uses)

(oxidizing agent, in fabrication of polymer solid **electrolyte** capacitors)

IT 30604-81-0, Polypyrrole

RL: TEM (Technical or engineered material use); USES (Uses)

(solid electrolytes, for capacitors)

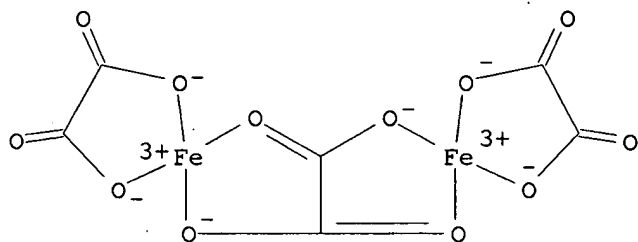
IT **2944-66-3**

RL: TEM (Technical or engineered material use); USES (Uses)

(oxidizing agent, in fabrication of polymer solid **electrolyte** capacitors)

RN 2944-66-3 HCAPLUS

CN Iron, [.mu.-[ethanedioato(2-)-.kappa.O1,.kappa.O2':.kappa.O1',.kappa.O2]]b is[ethanedioato(2-)-.kappa.O1,.kappa.O2]di- (9CI) (CA INDEX NAME)



L69 ANSWER 27 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1988:642474 HCAPLUS

DN 109:242474

TI A solid-electrolyte capacitor and a method for fabricating the capacitor

IN Kaneko, Atsuko; Koseki, Tetsuya

PA Nippon Chemi-Con Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

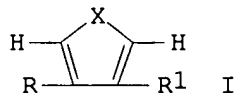
IC ICM H01G009-02

CC 76-10 (Electric Phenomena)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63102309	A2	19880507	JP 1986-249351	19861020
	JP 04019688	B4	19920331		

PRAI JP 1986-249351 19861020
 OS MARPAT 109:242474
 GI



- AB A solid-electrolyte capacitor has a composite layer of a polymer (e.g., poly(vinyl alc.)) and a polymer (e.g., polypyrrole) from a 5-membered heterocyclic compd. I (X = NR₂, S, O, or Se; and R, R₁, R₂ = H, alkyl or aryl) on a dielec. film. Optionally, the polymer from the heterocyclic compd. may be formed using an oxidizing agent. A method for fabricating the capacitor is also described.
- ST polymer solid electrolyte capacitor
- IT Polyphosphoric acids
 RL: TEM (Technical or engineered material use); USES (Uses)
 (solid electrolyte films contg., for capacitors)
- IT Electric capacitors
 (solid electrolyte polymer composite films for)
- IT 106-51-4, Quinone, uses and miscellaneous 1309-60-0, Lead dioxide
2944-66-3 3251-23-8, Cupric nitrate 7447-39-4, Cupric chloride, uses and miscellaneous 7697-37-2, Nitric acid, uses and miscellaneous 7705-08-0, Ferric chloride, uses and miscellaneous 7722-84-1, Hydrogen peroxide, uses and miscellaneous 7727-21-1 7727-54-0 7758-98-7, Cupric **sulfate**, uses and miscellaneous 7789-45-9, Cupric bromide 10031-26-2, Ferric bromide 10421-48-4, Ferric nitrate 13746-66-2
 RL: TEM (Technical or engineered material use); USES (Uses)
 (oxidizing agent, in fabrication of polymer solid **electrolyte** capacitors)
- IT 9002-18-0, Agaragar 9002-86-2, Poly(vinyl chloride) 9002-89-5, Poly(vinyl alcohol) 9002-98-6 9003-01-4, Poly(acrylic acid) 9003-47-8, Poly(vinylpyridine) 9003-53-6, Polystyrene 9004-34-6, Cellulose, uses and miscellaneous 9005-32-7 9046-40-6 25322-68-3, Polyethylene oxide 50851-57-5, Polystyrene sulfonic acid
 RL: TEM (Technical or engineered material use); USES (Uses)
 (solid electrolyte films contg., for capacitors)
- IT 30604-81-0, Polypyrrole
 RL: TEM (Technical or engineered material use); USES (Uses)
 (solid electrolytes, for capacitors)
- IT **2944-66-3**
 RL: TEM (Technical or engineered material use); USES (Uses)
 (oxidizing agent, in fabrication of polymer solid **electrolyte** capacitors)
- RN 2944-66-3 HCAPLUS
- CN Iron, [.mu.-[ethanedioato(2-)-.kappa.O1,.kappa.O2':.kappa.O1',.kappa.O2]]b is[ethanedioato(2-)-.kappa.O1,.kappa.O2]di- (9CI) (CA INDEX NAME)

